DNC(Dmax Network Camera) User's Manual

Part 1

(Product Overview)

Version 4.0

Dongyang Unitech Co., Ltd
www.d-max.co.kr
www.cctvhome.net

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1. Product Overview

1.1. DNC IP Camera

DNC® IP Camera is a standalone network camera that has a built-in PTZ Analog Camera and is capable of transmitting the video over the IP Network. IP Camera has built-in web server, so it can transmit the video at the rate of up to 30fps (NTSC@4CIF) over the network such as LAN, leased line, DSL or Cable modem. Users can monitor the video transmitted from IP Camera on web browser such as Internet Explorer or Firefox.

DNC IP Camera supports video compression format of both Motion-JPEG and H.264, and it can encode the video signal into the two different video formats and transmit them over the network at the same time. This way, users have the choice which video format to use for their intention. DNC IP Camera supports both NTSC and PAL standards, and users can select from 5 different video resolutions and 6 levels of video qualities.

Picture 1 : FW-1177-DE

1.2. Key Features

- Standalone device with built-in web server
- 10/100Base-T Auto-Sensing Ethernet
- Configuring and controlling through Web browser
- Up to 30 fps transmission rate on TCP/IP network
- Effective Bandwidth & Bit-rate Control (VBR/CBR) by H.264
- Dual Streaming in Motion JPEG and H.264
- 1-channel Voice Encoding / 1-channel Voice Decoding
- Built-in 2 way Audio transmission (1ch A-in, 1 A-out)
- Support Dynamic-IP users by IPCCTVDNS server
- Support PTZ (Pan/Tilt/Zoom) functions
- Support Sensor Input, Digital Output
- Support transparent mode
- Encryption on user authentication level
- Support dialup modem (Dial-in, Dial-out)
- Image transmission via FTP and Email

1.3. Technical Specification of DNC IP Camera

Hardware	32bit Embedded CPU Flash 8Mbytes / SDRAM: 128Mbytes Linux version 2.6.xx operating system Battery backed-up real-time clock
Image Sensor	1/4”Sony 410K Super HAD CCD Resolution: 520 TV Lines [Detail] S/N ratio: 50dB or more (AGC OFF) Electronic shutter speed: 1/60 ~ 1/100,000 sec (NTSC) 1/50 ~ 1/100,000 sec (PAL) White Balance: ATW (indoor: 3,000K~6,500K / outdoor: 1,800K~10,500K), AWC, MWB
Lens	IRIS control: Auto & Manual F1.4-30, f=3.3 mm wide to 99.0 mm tele Angle of view: 2.3~62.0 horizontal Shutter speed: Auto or 1/120~1/60,000 sec
Minimum Illumination	Color: 0.4 Lux (F1.6) B/W: 0.1 Lux (F1.6) DSS(Digital Slow Shutter) : 0.0007 Lux (F1.6)
Video Related Features	DIS (Digital Image Stabilizer) - protection from variation AGC (Auto Gain Control) DSS (Digital Slow Shutter) BLC (Back Light Compensation) ICR (Day & Night) SSNR (Noise Reduction at Low Light)
Video Compression	Motion JPEG / H.264
Resolution	NTSC: 720x480, 704x480, 704x240, 352x240,176x112 PAL: 720x576, 704x576, 704x288, 352x288,176x144
Frame Rate (each channel)	Motion JPEG: Up to 30/25 fps @4CIF (Secondary Stream at QCIF) H.264: Up to 30/25 fps @4CIF (Primary Stream at QCIF)
Video Streaming	Motion JPEG and H.264 Dual Streaming (Simultaneously) Controllable frame rate and bandwidth
Image Setting	Compression levels: 6 (Motion JPEG) / 6 (H.264) Color: color, black & white
Zoom	33x optical zoom, 10x digital zoom Smart Zoom (Speed control by zoom ratio)
Pan / Tilt	Max Speed: Pan 360°/sec, Tilt 200°/sec@preset mode Rotation Angle: Pan 360°(endless), Tilt: 92° (auto flip) 32 Preset Positions Swing, Group, tour, 16 privacy zone
Voice	4 bit ADPCM, Sampling rates 8KHz, Mono Audio 1ch in & 1ch out Bandwidth: 2KByte/sec (per channel) Min/Max Audio Freq.: 300Hz ~ 3.4KHz
LAN Interface	10/100Base-T Ethernet auto-sensing
Alarm I/O Interface	1 Photo-coupled inputs and 1 Relay output

Audio Input (MIC)	Input Impedance : 4 KΩ Phantom Power : 5 Volt Gain : 20 dB Jack : 3.5mm Mono
Audio Output (SPK)	Output Impedance : 160 Ω Output Power : 50 mW Output Voltage : 1 Volt (peak-to--peak) Jack : 3.5mm Stereo
Power Over Ethernet	Optional
Serial Interface	Two serial ports for console, modem(PSTN & GSM), serial input/output device, PTZ COM Port is RS-232, AUX port connected to Built-In PTZ Max Baud Rate: 115200 bit/s
Security Features	Multi-user level protection for camera access, PTZ, Alarm I/O
Advanced Service	Up to 15.5M memory for Pre/Post alarm buffer e-mail, FTP, alarm Buffer by event or schedule IP notification, Alarm Notification to e-mail, CGI Call by event or schedule
Built-in Motion Detections	Accuracy: 12x12=144 blocks Motion Sensitivity: -100 ~ 100 (100 is hypersensitive)
PTZ & UART Control Support	Built-in PTZ device is controlled through AUX UART control X10 device Dial in/out via PSTN or GSM modem
Others	Transmit Serial input data transfer with Video IP notification by e-mail
Management	Configurable by serial, web or telnet Remote system update via telnet, FTP OR web browser.
Developer Support	Provides HTTP CGI API ActiveX control development kit
Power Supply	Power Adaptor included Input: 100/240 VAC, 1A Output: AC 24 Volt, 1.5A
Power Consumption	AC 24Volt, 1A
Operating Environment	Temperature: 32° ~ 122°F (0° ~ 50°C) Humidity: 20 ~ 80% RH (non-condensing)
Miscellaneous	Free version NDVR Software Works with IP-Manager(NDVR S/W) Dynamic IP support through CCTVHOMEDNS Server
Simultaneous Users	Live-cast for up to 16 clients
Installation, Management and Maintenance	Installation CD and web-based configuration Firmware upgrades over HTTP or FTP, firmware available at http://www.d-max.co.kr
Video Access from Web Browser	Supported on Microsoft Internet Explorer or Firefox
Minimum Web Browsing Requirements	Pentium III CPU 500 MHz or higher Windows XP, 2000, NT4.0*, Internet Explorer 6.x or later

System Integration Support	Powerful API for software integration available at http://www.d-max.co.kr, including Simple Viewer API, DNC Control SDK, event trigger data in video stream, embedded scripting and access to serial port peripherals over HTTP/TCP User can be installed user program daemon for event notification or sending image. Embedded operating system: Linux 2.6
Supported Protocols	HTTP, TCP/IP, FTP, Telnet, RARP, PPP, PAP, CHAP, DHCP, SMTP client(e- mail), NTP, RTP/RTSP
Applications (not included)	IP-Camera Manager 16/25/32/64/128/256
Included Accessories	Power Adaptor 24 V AC / Power cord Mounting brackets Connector kit Installation Guide (Hard copy) CD (Installation wizard, user's manual, quick install guide & software),
Approvals	KCC FCC : Class A CE : Class A IP66 RoHS
Dimensions and Weight	216.8mm (Diameter) X 289.2mm (Height) (8.53" x 11.38") 5.5 Kg (12.1lbs) without power supply.

Table 1 : DNC IP Camera Specification

1.4. DNC IP Camera Packing List

DNC IP Camera's packing box includes the following items

IP Camera	1ea	
Power Adaptor Unit (Power Cable & DC12V, 3A Adapter)	1ea	
CD (User's Manual, installation wizard and Pictures)	1ea	

Table 2 : DNC IP Camera Packing List

Please make sure all the listed items are included in the package. For any missing items, please contact your local distributor.

2. Hardware Description

2.1. DNC IP Camera

Picture 2. DNC IP Camera with Wall Mount Bracket

3. DNC IP Camera HW installation and basic setup

3.1. Before installation

- Read User's Manual carefully
- Check User's Network (IP Address, Network Mask and default gateway)
- Secure IP address for IP Camera.

3.2. Factory Default Condition

The table below shows the factory default conditions. Please refer to this when you need to change the values on admin menu.

Item	Factory Default
Admin ID	root
Admin password	root
IP address	10.20.30.40
Network mask	255.255.255.0
Gateway	10.20.30.1

Table 3 : Factory Default Condition

☞ *Admin ID and Password are case sensitive.*

3.3. Hardware installation

Following pictures show the installation steps for DNC IP Camera.

1.

Next, you need to follow the steps below.

1. Network Configuration on IP-installer.
2. Camera Configuration on IP-installer or admin-menu.
3. Service Configuration on IP-installer or admin-menu.

For further details, please refer to the related part in the User's Manual. Configuring IP Camera is mostly done on a web browser, so users should set up the network first.

DNC(Dmax Network Camera) User Manual

Part 2

(Network Configuration and DNC Setting)

Version 4.03

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1. Network Configuration

DNC® products work under IP network such as leased line, cable model, xDSL modem, PSTN modem. DNC can also work under public network or private network. The network environment will vary with users' goals and needs; however, basic applications with DNC® products can be followings.

1.1. Private Network

Private network without Internet connection.

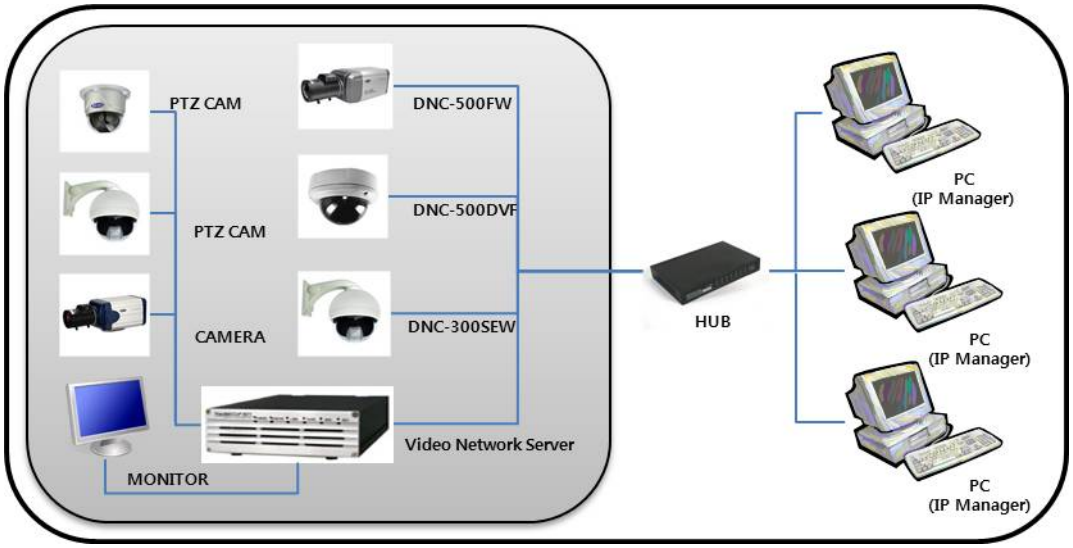


Figure 1 Private Network Diagram

1.2. Leased Line Network

In case of leased line, most users use Public static IP, they assign public static IP to DNC server and they can view the images from DNC locally or remotely via Internet.

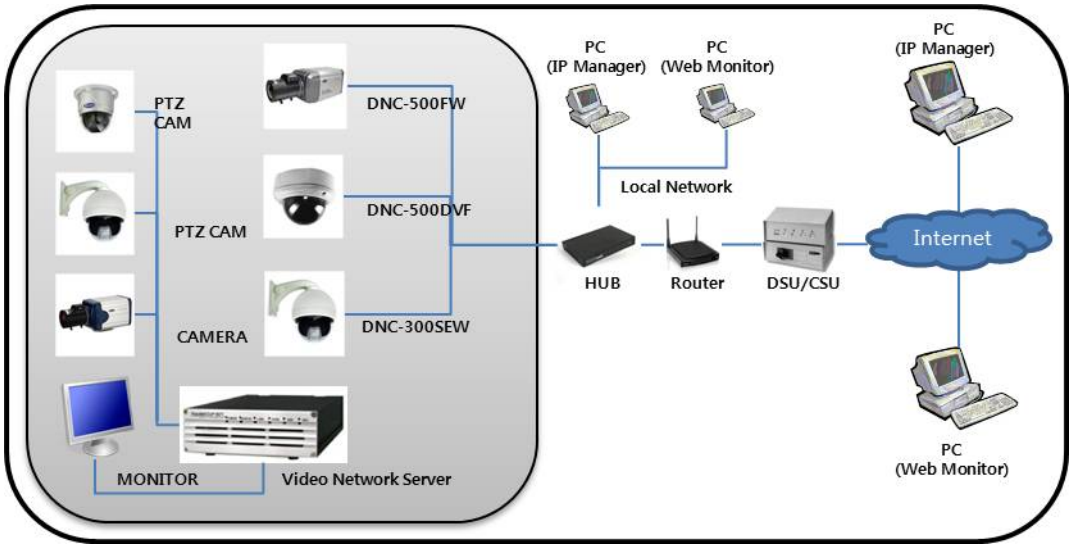


Figure 2 Leased Static IP Diagram

1.3. Cable/xDSL Modem Network with Static IP

You can use Static IP through cable/xDSL modem to view the images from DNC.

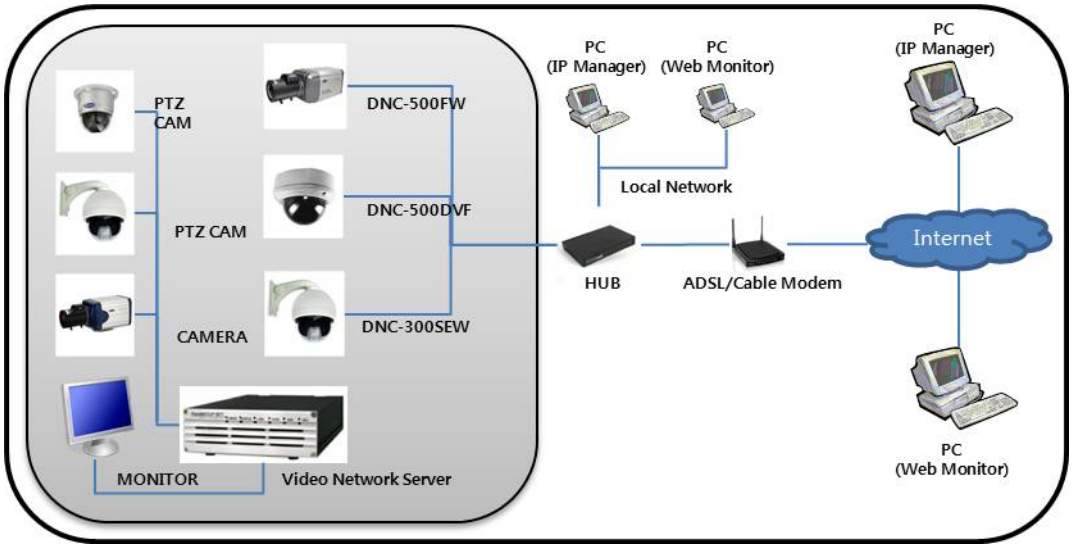


Figure 3 ADSL/Cable Modem (Static IP) Diagram

1.4. Cable/xDSL Modem Network with Dynamic IP

You can use Dynamic IP through cable/xDSL modem to view the images from DNC. In this case, you need to register for AOIP service provided by Dongyang Unitech.

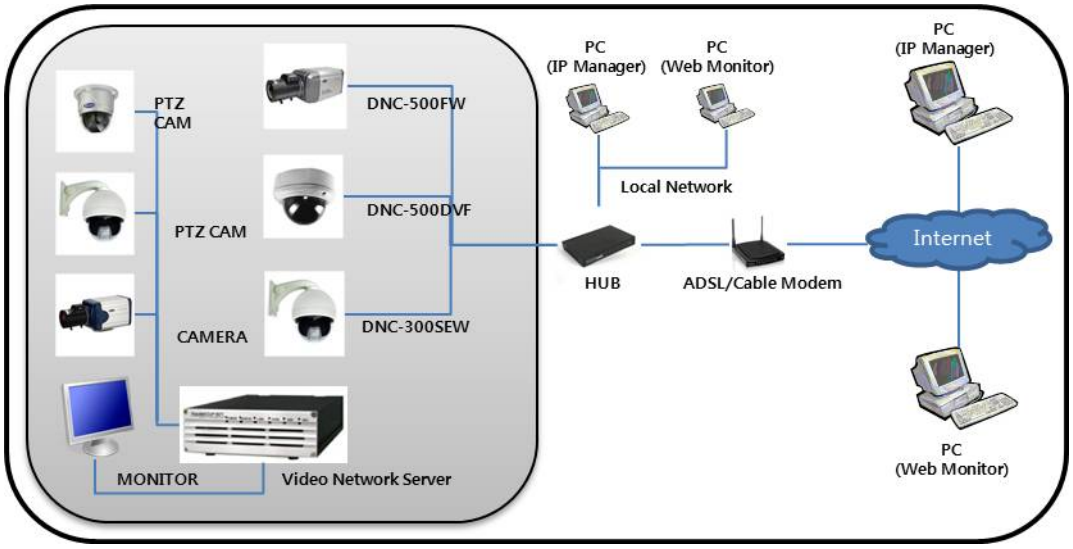


Figure 4 ADSL/Cable Modem (dynamic IP) Diagram

1.5. PSTN Modem with Dial-out

You can use PSTN modem to have DNC server connected to the Internet. DNC makes a call to ISP (Dial-out) and gets connected to the Internet. In this case, the assigned IP by ISP is Public Dynamic IP. Thus, you can view the images from DNC servers by AOIP service provided by Dongyang Unitech.

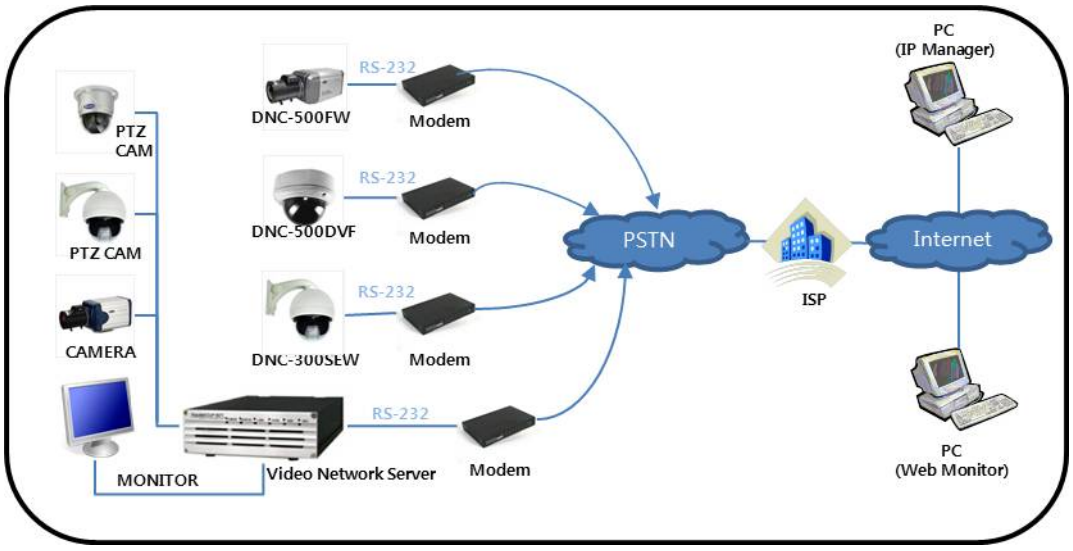


Figure 5 Dial Out Connection (Modem) Diagram

1.6. PSTN Modem with Dial-in

You have DNC server connected to PSTN modem and remote PC can connect to this PSTN

modem. Then, DNC accepts the call from remote PC (Dial-in).

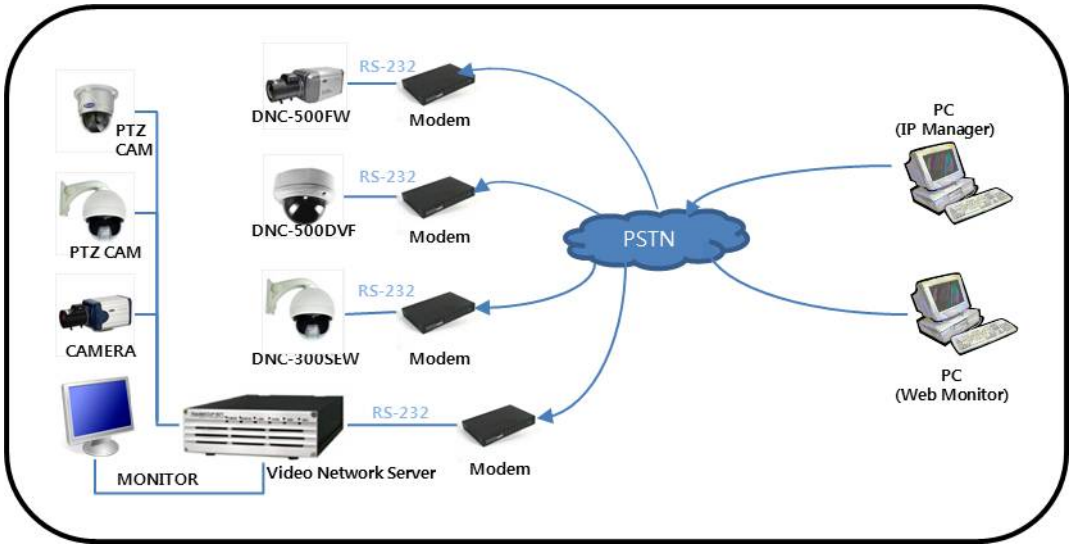


Figure 6 Dial in Connection (Modem) Diagram

2. Network Configuration

The very first thing you need to do for using DNC is proper IP assignment for your DNC servers. After this, you can go on to the next steps. There are two methods can be used. The first method is to use DNC Installer included in CD and the other method is to use terminal emulation program (ex. Microsoft Windows's Hyper Terminal).

2.1. Through IP Installer

2.1.1. What is IP Installer?

IP Installer is a program which enables you to simply configure the DNC Products such as IP setting, server and camera setting, firmware update, and so on. Please refer to IP Installer manual included in CD-ROM provided with the product you purchased and you may want to refer to latest available documents on our website (http://www.d-max.co.kr).

IP Installer manual has been written on the assumption that you are familiar with basic network knowledge such as IP address, LAN, HUB, Router, and so on. For the basic network knowledge, please refer to the related books, or you may ask your network service provider or network administrator.

IP Installer can be used for DNC Linux series products; however, there may be some differences based on models.

2.1.2. Installation of IP Installer

1. Please double click on the IP Installer Icon.
2. Click Next.
3. Please Check the version of IP Installer and if you want to install it, please click Next.

IP Installer 2.0.5 Setup
Welcome to the IP Installer 2.0.5 Setup Wizard
This wizard will guide you through the installation of IP Installer 2.0.5.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Next >
Cancel

Figure 7 IP Installer First Installation Screen

4. Select the installation location, please click Install.

The default location is C:\Program Files\IP Installer\IP Installer, and if you want to change the location, you may click Browse and select the desired folder.

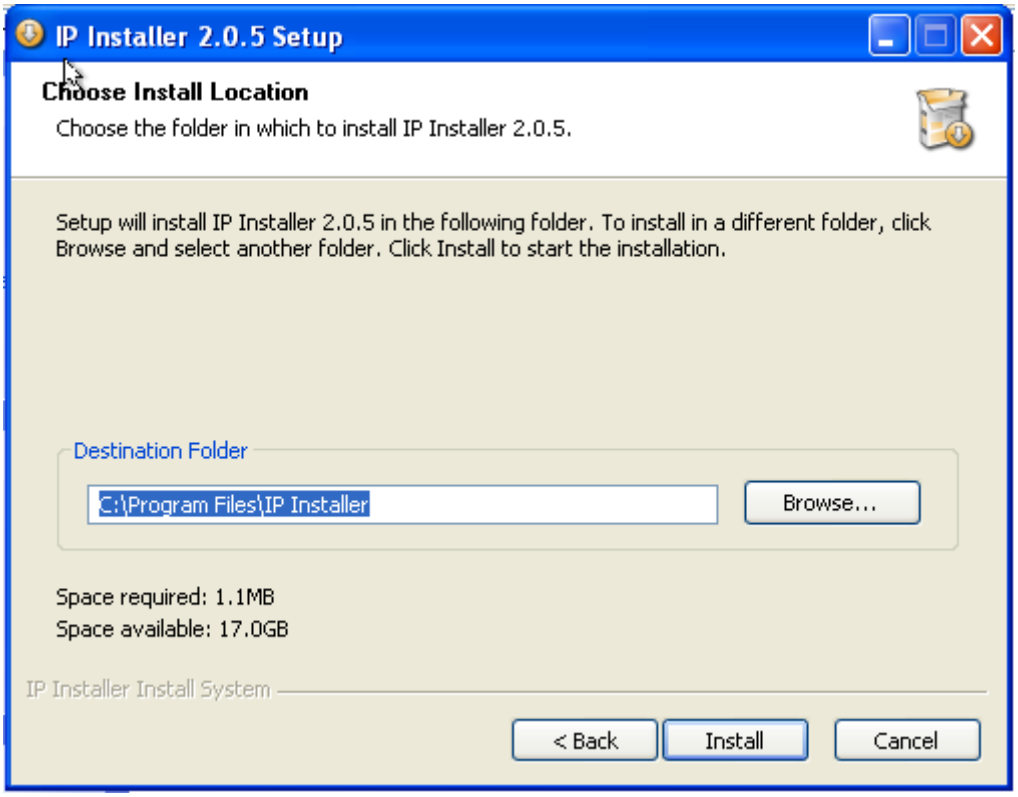

IP Installer 2.0.5 Setup
Choose Install Location
Choose the folder in which to install IP Installer 2.0.5.
Setup will install IP Installer 2.0.5 in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.
Destination Folder
C:\Program Files\IP Installer
Browse...
Space required: 1.1MB
Space available: 17.0GB
IP Installer Install System
< Back
Install
Cancel

Figure 8 IP Installer Folder Selection

1. Click Finish (Installation Completion)

All the required files will be installed and the installation will be done by clicking Finish.

If users don't want to use IP Installer anymore, delete the file, referring to the next chapter, 'Deleting IP Installer'

IP Installer 2.0.5 Setup
Completing the IP Installer 2.0.5 Setup Wizard
IP Installer 2.0.5 has been installed on your computer.
Click Finish to close this wizard.
< Back
Finish
Cancel

Figure 9 IP Installer Installation Completion

2.2. How to Use IP Installer

2.2.1. How to Run IP Installer

To run IP Installer, please double-click IP Installer icon in desktop screen or click the icon located in Programs shown as below.

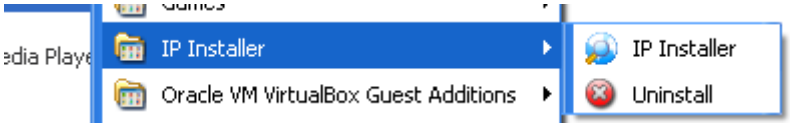


Figure 10 IP-Installer How to Run

2.2.2. Program Menu Description

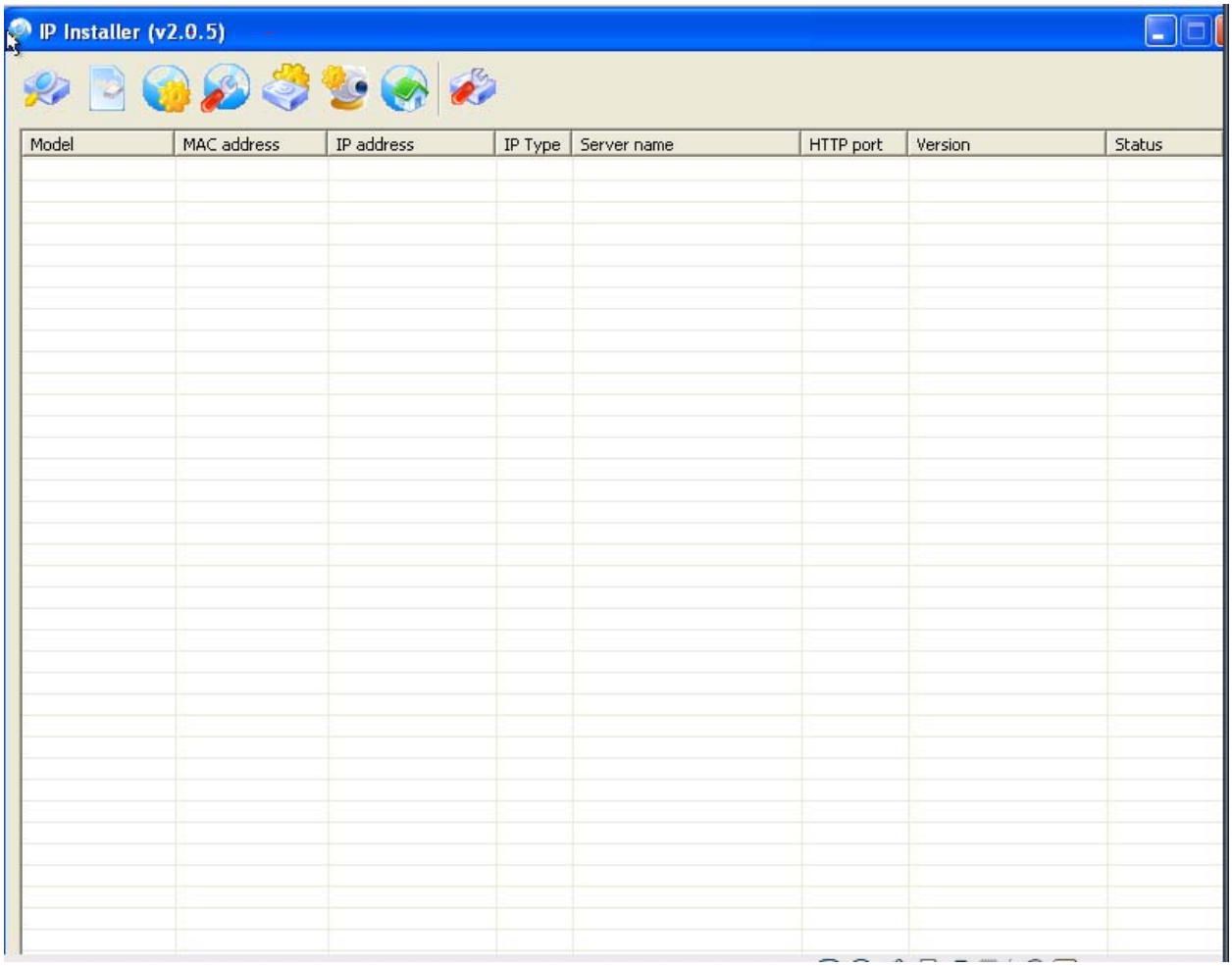


Figure 11 IP Installer's main screen

Menu	Description
Search Product	Search and show the list of DNC Linux series installed in the same LAN of your PC.
Clear Product list	Clear all the list of DNC products
Automatic IP setup	IP Installer will check the network information and you can set up IP automatically. TIP) IP address will be assigned automatically in descending order after IP information is retrieved from PC.
Manual IP setup	You can set up IP manually.
Server Setup	Configure the DNC server.
Camera Setup	Configure the DNC camera

Connect Product	Connect to Homepage of selected Product Notice) Class of IP address should be the same between PC and DNC server.
Update firmware	Update the firmware of Product.
Searched Result List	Shows searched list of DNC
Total	Shows the total number of searched DNC servers.
Found	Shows the total number of searched DNC servers with normal respond * For second try, 'Found' means the number of devices available for searching normally.
Timeout	Shows the total number of DNC servers with no response on search again. * For second try, 'Timeout' means the number of normally 'not-responding' devices.

2.2.3. Right Mouse Button Menu

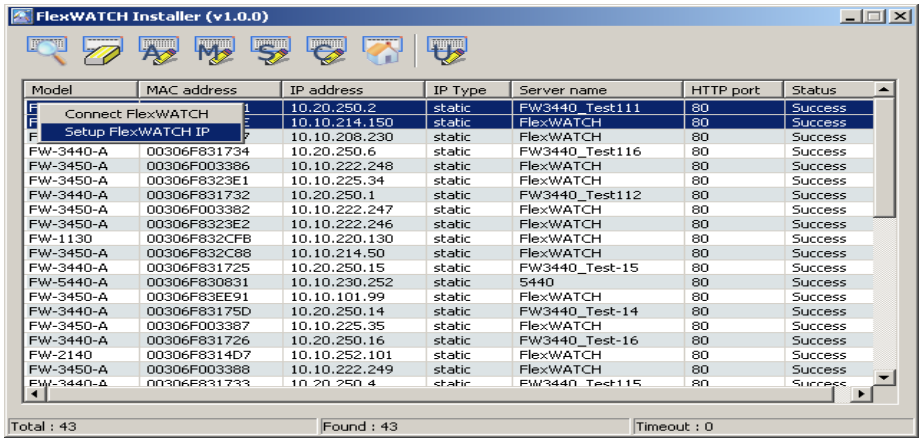

FlexWATCH Installer (v1.0.0)
Model
MAC address
IP address
IP Type
Server name
HTTP port
Status
Connect FlexWATCH
Setup FlexWATCH IP
FW-3440-A 00306F831734 10.20.250.6 static FW3440_Test116 80 Success
FW-3450-A 00306F003386 10.10.222.248 static FlexWATCH 80 Success
FW-3450-A 00306F8323E1 10.10.225.34 static FlexWATCH 80 Success
FW-3440-A 00306F831732 10.20.250.1 static FW3440_Test112 80 Success
FW-3450-A 00306F003382 10.10.222.247 static FlexWATCH 80 Success
FW-3450-A 00306F8323E2 10.10.222.246 static FlexWATCH 80 Success
FW-1130 00306F832CFB 10.10.220.130 static FlexWATCH 80 Success
FW-3450-A 00306F832C88 10.10.214.50 static FlexWATCH 80 Success
FW-3440-A 00306F831725 10.20.250.15 static FW3440_Test-15 80 Success
FW-5440-A 00306F830831 10.10.230.252 static 5440 80 Success
FW-3450-A 00306F83EE91 10.10.101.99 static FlexWATCH 80 Success
FW-3440-A 00306F83175D 10.20.250.14 static FW3440_Test-14 80 Success
FW-3450-A 00306F003387 10.10.225.35 static FlexWATCH 80 Success
FW-3440-A 00306F831726 10.20.250.16 static FW3440_Test-16 80 Success
FW-2140 00306F8314D7 10.10.252.101 static FlexWATCH 80 Success
FW-3450-A 00306F003388 10.10.222.249 static FlexWATCH 80 Success
Total : 43
Found : 43
Timeout : 0

Figure 11 IP Installer Menu

Select one of the searched products and right click of Mouse Button for menu.

Menu	Description
Connect Product	Connect to the Homepage of selected DNC server. Notice) Class of IP address should be the same between PC and DNC.
Setup Product IP	Configure the network setting of the selected DNC server.

TIP) More information on IP setting will be further discussed in 2.3 IP assignment.

2.3. IP Assignment

There are three different ways of IP setup for the network connection of your DNC server.

1. Static IP Assignment

General IP assignment method, to setup public or private static IP address.

2. IP Assignment by DHCP

IP assignment method, using DHCP to connect DNC by cable modem or VDSL.

3. IP Assignment by PPPoE

IP assignment method using PPPoE to connect DNC by xDSL.

2.3.1. Diagram between DNC and PC

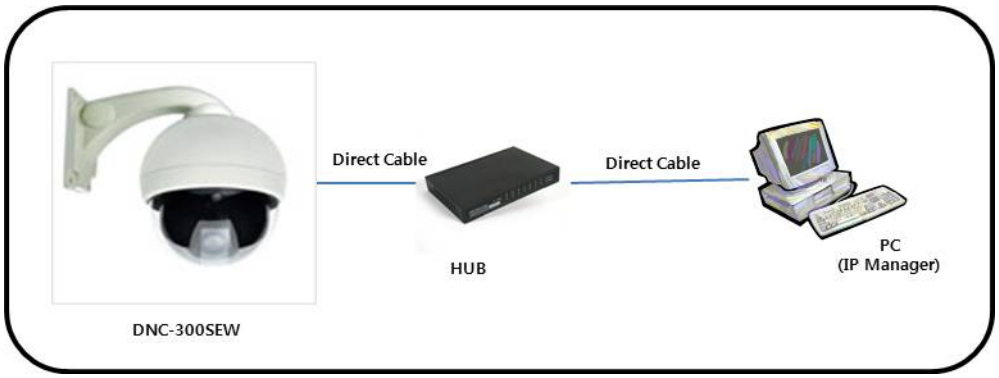


Figure 12 Connection through a HUB

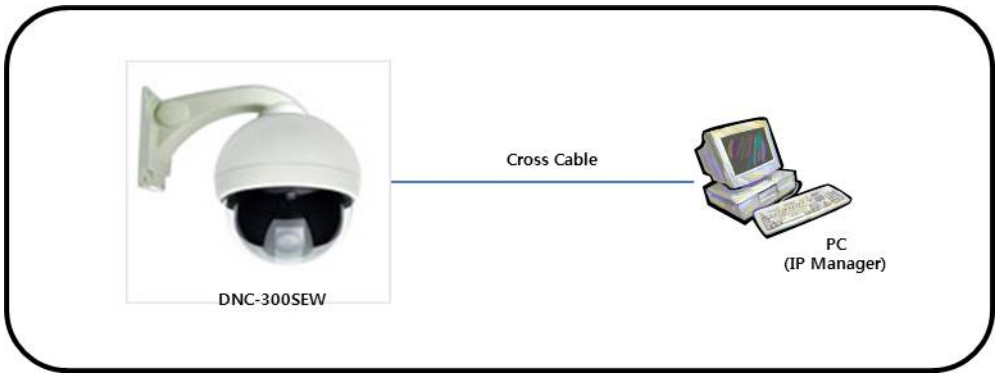


Figure 13 Connection DNC to PC

Please use Direct Cable when you use a Hub while you use Cross-Over Cable for direct connection between DNC and PC.

2.3.2. Static IP assignment

2.3.2.1. Manual IP Assignment

There are two types of static IP including public IP or private IP in LAN with an IP sharer or a router.

1. Please run IP Installer, and search to see available DNC servers on the list. Then, please select the server from the list and click on IP Setup button or IP Setup from the right mouse button menu.

- In case of selecting 1 server from the list

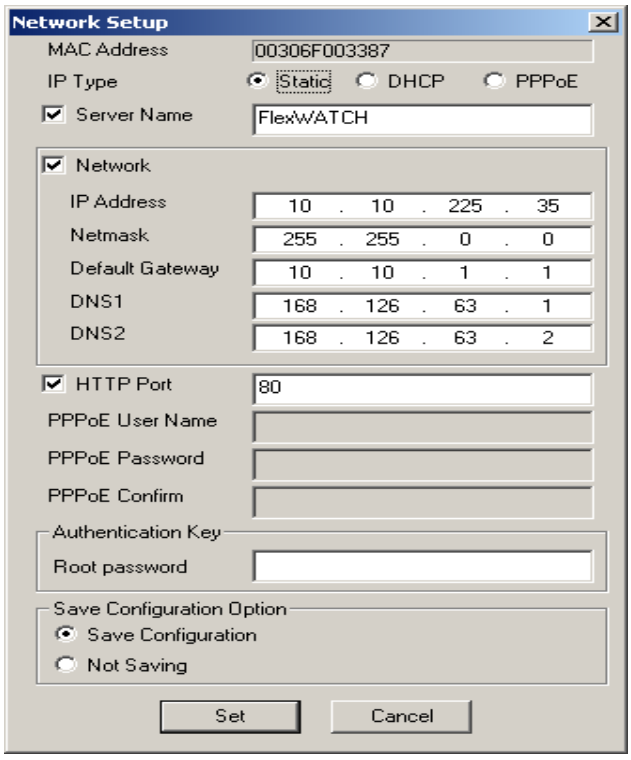


Figure 14 In case of selecting 1 server for Static IP Assignment

Menu	Description
MAC Address	MAC address of selected DNC
IP Type	Please select Static for Static IP Assignment
Server Name	Assign a name to selected DNC
Network	Setting for the general Network Information
IP Address	Enter IP address for DNC server.
Netmask	Netmask is for dividing IP classes. Please ask the network administrator before setting.

Default Gateway	Default gateway will be automatically searched by IP Installer.
DNS1, DNS2	Domain Name Service is a service to transfer Text address into IP address, KT uses ‘’168.126.63.1’ and Drunet uses ‘210.117.65.1’.
HTTP Port	Default web port for DNC. Default value is 80.
Root password	Password for DNC server to authenticate a valid user. The default password for DNC is root.
Save Configuration Option	It makes set items save.
Save Configuration	All the changes will be stored in Flash Memory.
Not Saving	All the changes will not be stored in Flash Memory. Notice) If you choose “Not Saving”, all the adjusted settings will not be saved, Therefore, after rebooting, new change won’t be applied.

- In case of selecting 2 or more servers from the list

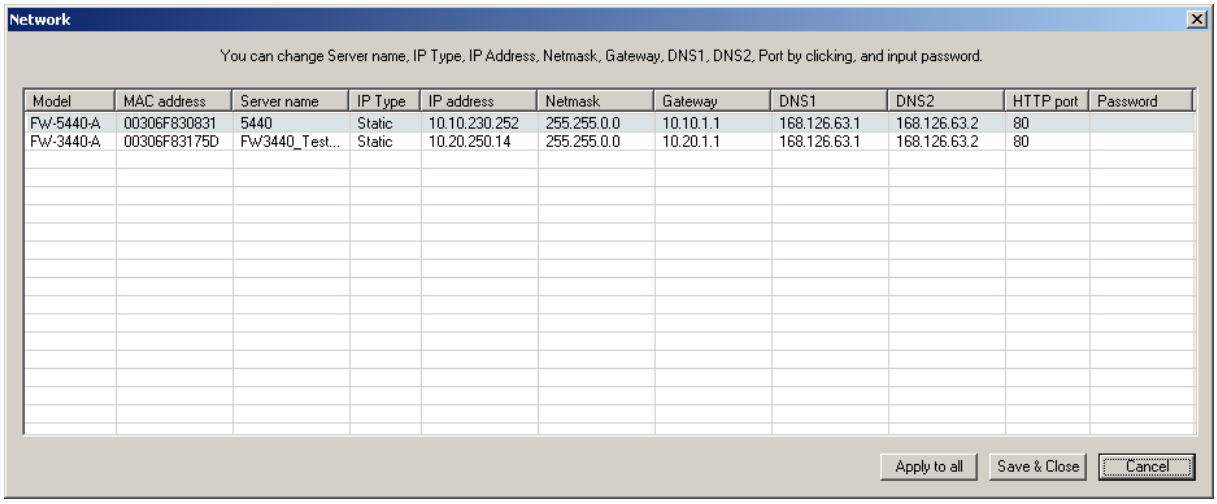


Figure 15 In case of selecting 2 or more servers for Static IP Assignment

Menu	Description
Model	Model name of selected DNC.
MAC address	MAC address of selected DNC
Server name	Assign a name to selected DNC
IP Type	Please select Static for Static IP Assignment
IP address	Enter proper IP address for DNC server
Netmask	A Netmask is used to divide an IP address into subnets and specify the network available hosts. Contact your network administrator for more details.

Gateway	Default gateway will be automatically searched by IP Installer.
DNS1, DNS2	Domain Name Service is a service to transfer Text address into IP address, KT uses ‘’168.126.63.1’ and Drunet uses ‘210.117.65.1’.
HTTP port	Default web port for DNC. Default value is 80.
Password	Password for DNC server to authenticate a valid user. The default password for DNC is root.
Apply to all	Please use this button when you enter the same values for multiple servers. Please click one of the listed servers and make changes as you wish. The values of rest of FW servers will be changed accordingly. However, server names will be in the format of “your chosen server name”+ascending number. And IP address will be also assigned automatically by adding 1.
Save & Close	Will save all the changes to DNC servers and close network setting window. (All the adjusted settings will be stored in Flash Memory)
Cancel	Cancel the all the adjusted setting and close the network setting window.

2. After IP configuration, click “Connect” icon to access DNC. See live view of DNC or specify system configuration on admin menu. Please refer to chapter 3.2 Live View and “User Manual for DNC” for more details of system configuration and live view.

2.3.2.2. Automatic IP Assignment

IP Installer can automatically find available IP address from the network in which IP Installer is being used. You can use the IP address searched by IP Installer or you may change the IP by yourself.

Notice) Since IP devices online is searched only, any of the auto-assigned IP may cause a network collision and problem if the status of IP devices offline turns into online (in case of Power-On or new IP configuration) in the same network., so Auto-assigned IP is assigned based on C-Class or its Subnet.

1. Please run IP Installer, and search to see available DNC servers on the list. Then, please select the server from the list and click on Automatic IP Setup button.

- In case of selecting 1 server from the list

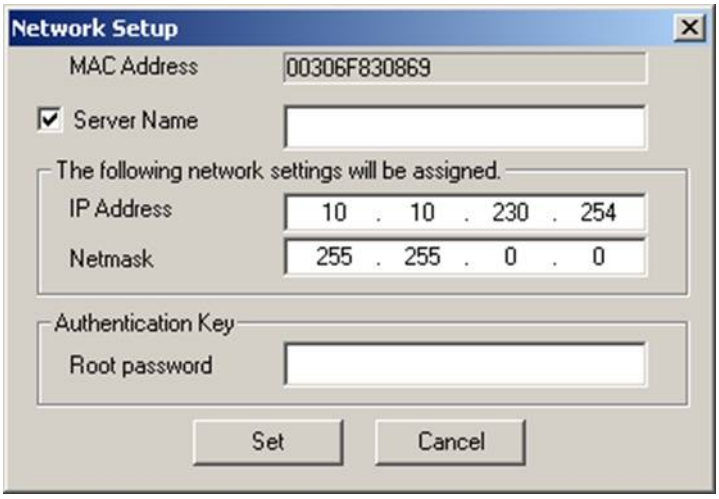


Figure 16 In case of selecting 1 server for Automatic Static IP Assignment

Menu	Description
Server Name	Assign a name to selected DNC
Network	Setting for the general Network Information
IP Address	Automatic assigned IP will be shown. You may use or change it. Notice) In case of IP conflict, you shall assign proper IP to DNC server.
Netmask	Automatic assigned Netmask will be shown. You may use or change it. Netmask is for dividing IP classes. Please ask the network administrator for more info.
Root password	Password for DNC server to authenticate a valid user. The default password for DNC is root.

- In case of selecting 2 or more servers from the list

TIP) Please refer to 2.3.2.1 Manual IP Assignment

2.3.3. IP Assignment through DHCP

When your local network is managed by DHCP server, cable modem, or VDSL, DHCP IP Assignment is used. xDSL with auto-dial up also needs DHCP IP Assignment.

1. Connect your PC and DNC server in the network. Setup a static IP address according to the steps in chapter '2.2. How to use IP Installer'.
2. Click 'Connect' icon to access to DNC after IP setup is completed.
   Set up systems either by looking at videos of DNC or using Admin Menu.
   To know 'looking at videos', refer to '2.6. How to see DNC video' and to know how to set up systems, refer to DNC user manual.

TIP) To access to DNC remotely, be sure to st up AOIP in Admin Menu.

3. Choose the device to set up after searching with IP Installer. Then, click 'IP Setup' menu through IP setup button or right click and change setup to DHCP.

- In case of selecting 1 server from the list

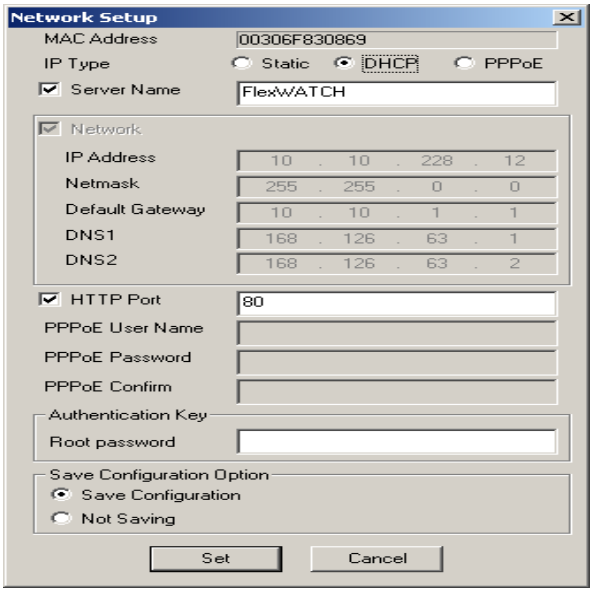


Figure 17 In case of selecting 1 server for DHCP IP Assignment

Menu	Description
IP Type	Select ‘DHCP’
Server Name	Assign a name to selected DNC
HTTP Port	Default web port for DNC. Default value is 80.
Root password	Password for DNC server to authenticate a valid user. The default password for DNC is root.
Save Configuration Option	Menu to save set items.
Save Configuration	All the changes will be stored in Flash Memory..
Not Saving	All the changes will not be stored in Flash Memory. Notice) If you choose “Not Saving”, all the adjusted settings will not be saved, Therefore, after rebooting, new change won’t be applied.

- In case of selecting 2 or more servers for DHCP IP Assignment

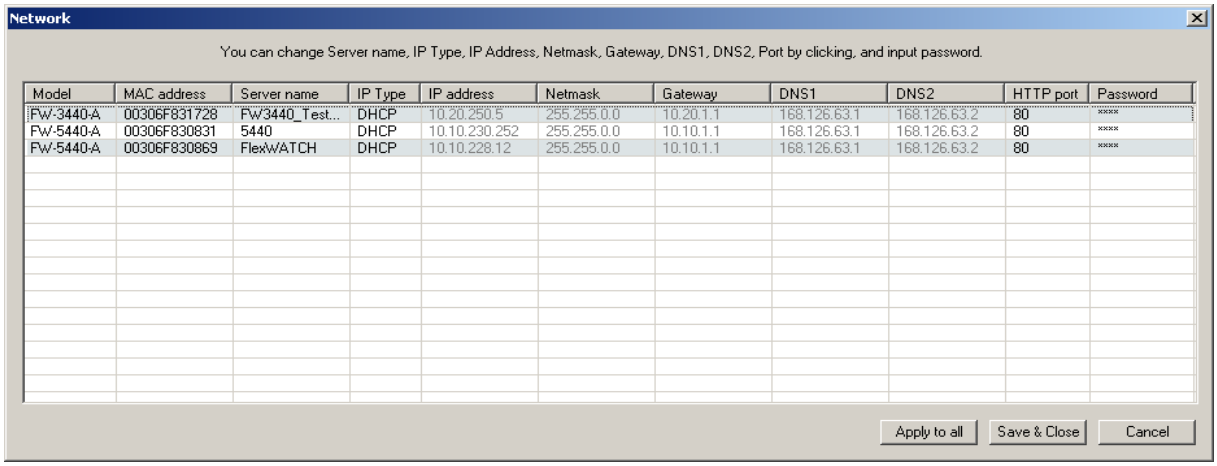

Network
You can change Server name, IP Type, IP Address, Netmask, Gateway, DNS1, DNS2, Port by clicking, and input password.
Model
MAC address
Server name
IP Type
IP address
Netmask
Gateway
DNS1
DNS2
HTTP port
Password
FW-3440-A 00306F831728 FW3440_Test... DHCP 10.20.250.5 255.255.0.0 10.20.1.1 168.126.63.1 168.126.63.2 80 ****
FW-5440-A 00306F830831 5440 DHCP 10.10.230.252 255.255.0.0 10.10.1.1 168.126.63.1 168.126.63.2 80 ****
FW-5440-A 00306F830869 FlexWATCH DHCP 10.10.228.12 255.255.0.0 10.10.1.1 168.126.63.1 168.126.63.2 80 ****
Apply to all
Save & Close
Cancel

Figure 18 In case of selecting 2 or more servers for DHCP IP Assignment

TIP) In case of multiple DHCP settings, you can't set IP address, Netmask, Gateway, DNS1, 2. Please refer to Static Manual IP Assignment.

4. Check out if your DHCP setup is correctly applied; please connect DNC to VDSL or Cable Modem. If your server is under Local network, please connect DNC to a HUB in Local Network.

2.3.4. IP Assignment by PPPoE

1. Assign static IP of DNC in same the class with PC. Or it's easy to setup IP assignment in reference to '2.2. How to use IP Installer'.
2. After IP setup, check out if you can access to the homepage of DNC server by clicking "Connect" icon. Set up systems by looking at videos of DNC or using Admin Menu. Refer to '2.6. Admin Page of DNC in relation to looking at videos, DNC user manual for system configuration.

Notice) Make sure to set up AOIP to remotely access to DNC.

3. Run IP Installer again, and select DNC on the search list, Click IP Setup button and specify PPPoE option.

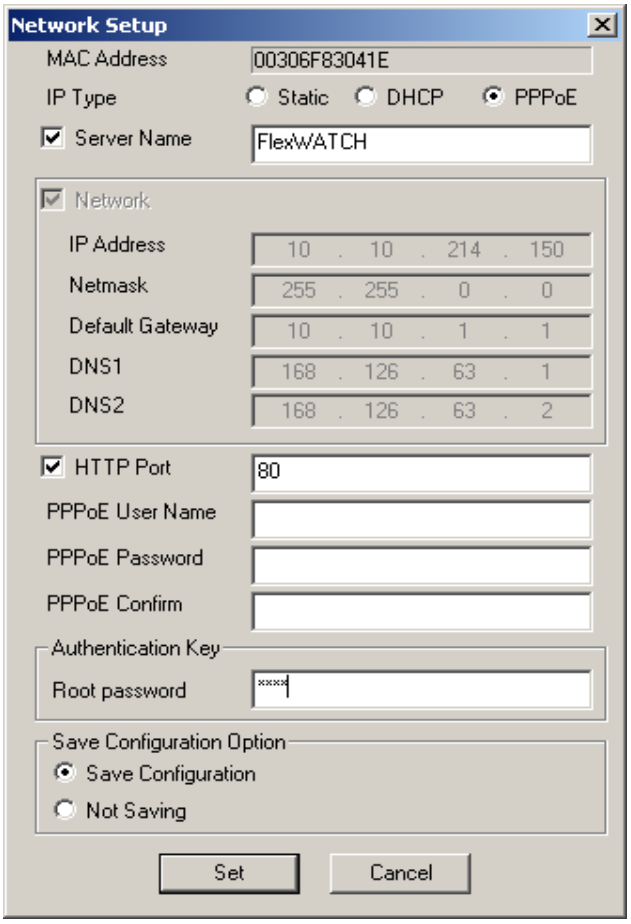


Figure 19 In case of selecting 1 server for PPPoE IP Assignment

Menu	Description
IP Type	Select 'PPPoE'
Server Name	Assign a name to selected DNC
HTTP Port	Default web port for DNC. Default value is 80.
PPPoE setup	Type ID/Password through PPPoE. *Notice) You can check out the correct ID/Password from your ISP.*
PPPoE User Name	Enter PPPoE ID
PPPoE Password	Enter PPPoE Password
PPPoE Confirm	Enter PPPoE Confirmed Password
Password	Password for DNC server to authenticate a valid user. The default password for DNC is root.
Save Configuration Option	Save set items.
Save Configuration	All the changes will be stored in Flash Memory.

Not Saving	All the changes will not be stored in Flash Memory. Notice) If you choose “Not Saving”, all the adjusted settings will not be saved, Therefore, after rebooting, new change won’t be applied.

4. Check out if your PPPoE setup is correctly applied; please connect DNC directly to xDSL modem.

Notice) Choose one device only for PPPoE setup. In case of selection more than 2 devices, PPPoE setup is not supported.

2.4. Network configuration through Hyper Terminal mode

Microsoft Windows provides Terminal emulation program, named Hyper Terminal.

It is a method to set up network with console after login. For doing that, to connect COM port of DNC® with Serial port (COM1 or COM2) of user’s PC with serial cable provided.

You can continue below configuration after Network setting, and the next process will be same as using Installation Wizard Program.

2.4.1. Hyper Terminal Installation Wizard Program

1. Link up with the provided serial cable between COM port at DNC server and COM1 or COM2 at user’s PC.
2. Run Hyper Terminal Program on user’s PC.
   Window start →All Programs→ Accessories → Communications → Hyper Terminal

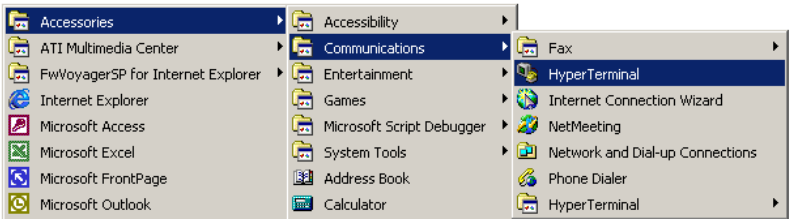


Figure 20 Hyper Terminal Program Location

3. If Hyper Terminal window come up as below, input HyperTerminal name (ex. dmax) and press ‘OK’ button.

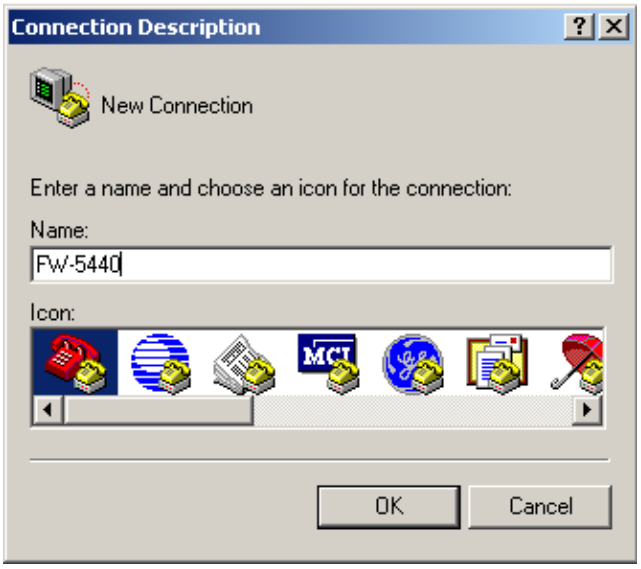


Figure 21 COM Port Connection Description

4. Select the connected COM port with serial cable and press OK button.

Figure 22 COM Port Connect To Information

5. When 'Port Settings' window shows up, input each values from the table below.

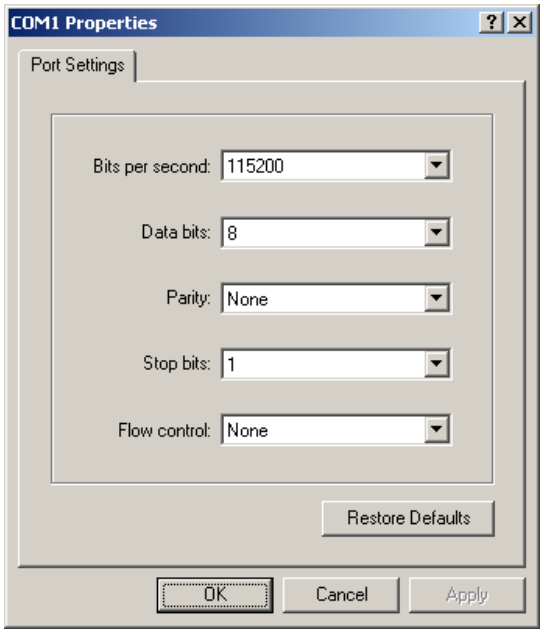


Figure 23 COM Port Settings

Serial Port Settings	Value
Bits per Second	115200
Data bits	8
Parity	None
Stop bits	1
Flow control	None

2.4.2. System Login and Network Configuration by Hyper Terminal

1. After setting Hyper Terminal, press Enter key several times and then you can see messages below. Enter Login ID and Password. (Factory defaults for Admin ID and Password is root/root.)

```
Linux 2.6.18_pro500-davinci_evm-arm_v5t_le (192.168.10.89) (pts/0)

NetCAM login:
```

2. If you correctly enter ID and Password, 'bash#' prompt will show up as below.

```
NetCAM login: root
Password: root

 ------------------------------------------------------------
VERSION     : 3.0.070327-mpeg
 MODEL       : DNC-500DVF
 ------------------------------------------------------------

login[504]: root login  on `ttyS0'

bash#
```

3. ‘Input ‘netconfig eth1 IP, SubnetMask, Gateway’, and press Enter key as below.
   e.g.) bash# netconfig eth1 192.168.0.253 255.255.255.0 192.168.0.1

```
bash# netconfig eth0 192.168.0.253
255.255.255.0 192.168.0.1
Your network configuration was changed.
Shutting down interface ppp2 [  OK  ]
Shutting down interface ppp1 [  OK  ]
Shutting down interface eth1 [  OK  ]
Shutting down interface eth0 [  OK  ]
Disabling IPv4 packet forwarding [  OK  ]
Setting network parameters [  OK  ]
Bringing up interface lo [  OK  ]
Bringing up interface eth0 [  OK  ]
Bringing up interface eth1 [  OK  ]
Bringing up interface ppp1 [  OK  ]
Your new network configuration was applied.
bash#
```

1. IP setup will not be completed until IP, subnet mask, gateway is saved to flash memory when bash# prompt is displayed.
2. Type ‘savecfg’ and click ‘Enter’. Then, below message shows and figures can be changed. Check ‘[OK] message below.
3. Type ‘reboot’ and click ‘Enter’ once changed setup is saved, bash# prompt is displayed.

```
bash#
bash# savecfg
Saving a current config to flash memory
[  OK  ]
Updated flash
bash#
bash#
bash# reboot

Broadcast message from root (ttyp0) Mon Sep 6 19:28:51 2004...

The system is going down for reboot NOW!!
bash#
```

4. To check whether your Network configuration is correctly applied or not, press ‘ifconfig’ command, then following messages will show up. On the second line of the ‘eth1’ message, if the values are different from what you want to set-up, try again the Network configuration from step H.

```
Bash# ifconfig
eth0      Link encap:Ethernet  HWaddr 00:30:6F:48:64:86
          inet addr:10.20.30.40  Bcast:10.20.30.255
Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:0 errors:0 dropped:0 overruns:0 frame:0
          TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:100
          Interrupt:9
eth1      Link encap:Ethernet  HWaddr 00:30:6F:48:E4:86
          inet addr:192.168.0.253  Bcast:10.255.255.255
Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST  MTU:1500  Metric:1
          RX packets:1453 errors:0 dropped:0 overruns:0 frame:0
          TX packets:62 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:100
          Interrupt:10 Base address:0x2100
lo        Link encap:Local Loopback
          inet addr:127.0.0.1  Mask:255.0.0.0
          UP LOOPBACK RUNNING  MTU:16436  Metric:1
          RX packets:309 errors:0 dropped:0 overruns:0 frame:0
          TX packets:309 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:0
```

2.4.3. RS232 Console Cable

Cable used for RS232 Console Cable can be made with a combination of RS232 Cross Cable and RS232 Converter Cable

2.4.3.1. RS232 Cross Cable

RS232 Console Cable is DNC's Console Cable made of DB9 Connector, it can be used properly.

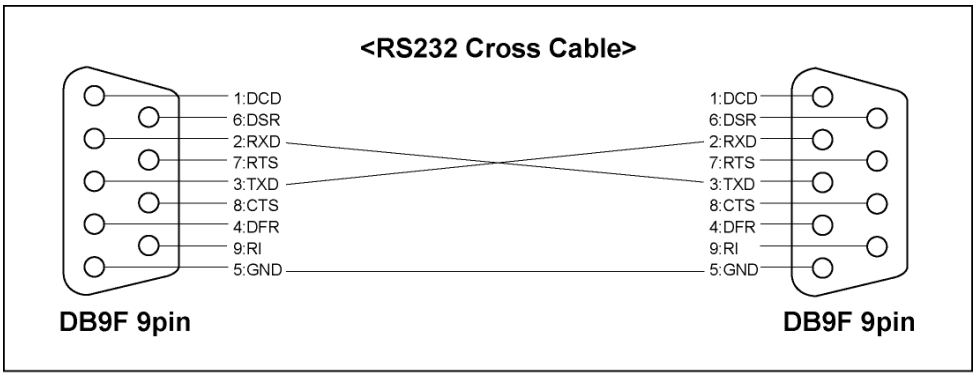


Figure 24 RS232 Cross Cable

2.4.3.2. RS232 Converter Cable

RS232 Converter Cable can be used as DNC's Console Cable made of RJ45 Connector after linking with RS232 Console Cable.

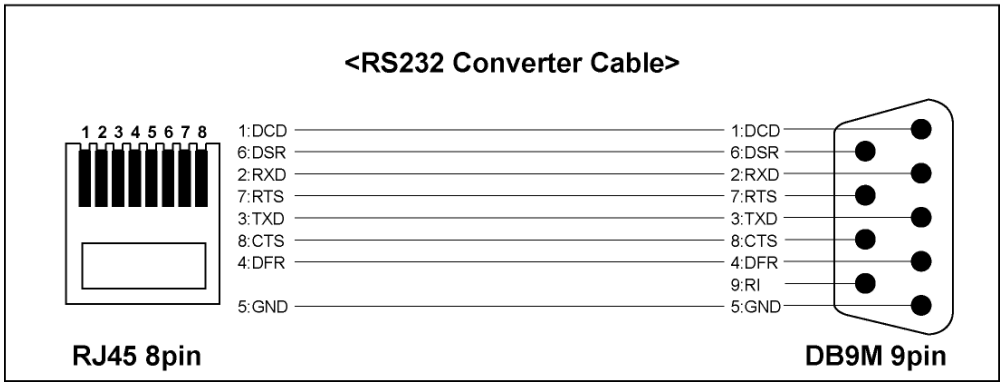


Figure 25 RS232 Converter Cable

In connection to Modem, RS232 Converter Cable can be linked to Modem Cable.

2.4.4. Confirmation of setup & Access to Home Page

Open Internet Explorer, type IP address to access to DNC.

2.5. Automatic installation with UPnP

UPnP (Universal Plug and Play) has been developed to provide easy, convenient communication method between separated devices & services such as information / wireless communication / PC devices.

UPnP is standardized method without user work in network environment where administrator is not available such as home or small office, provides communication between devices or devices and internet.

UPnP function of DNC is for providing easy installation environment for users by executing port mapping after searching for router to support UPnP.

Users can configure network so that access to DNC would be possible without port mapping of router, IP installed can be used liking to (Always On IP) Service.

2.5.1. Indication of installation status with Status LED

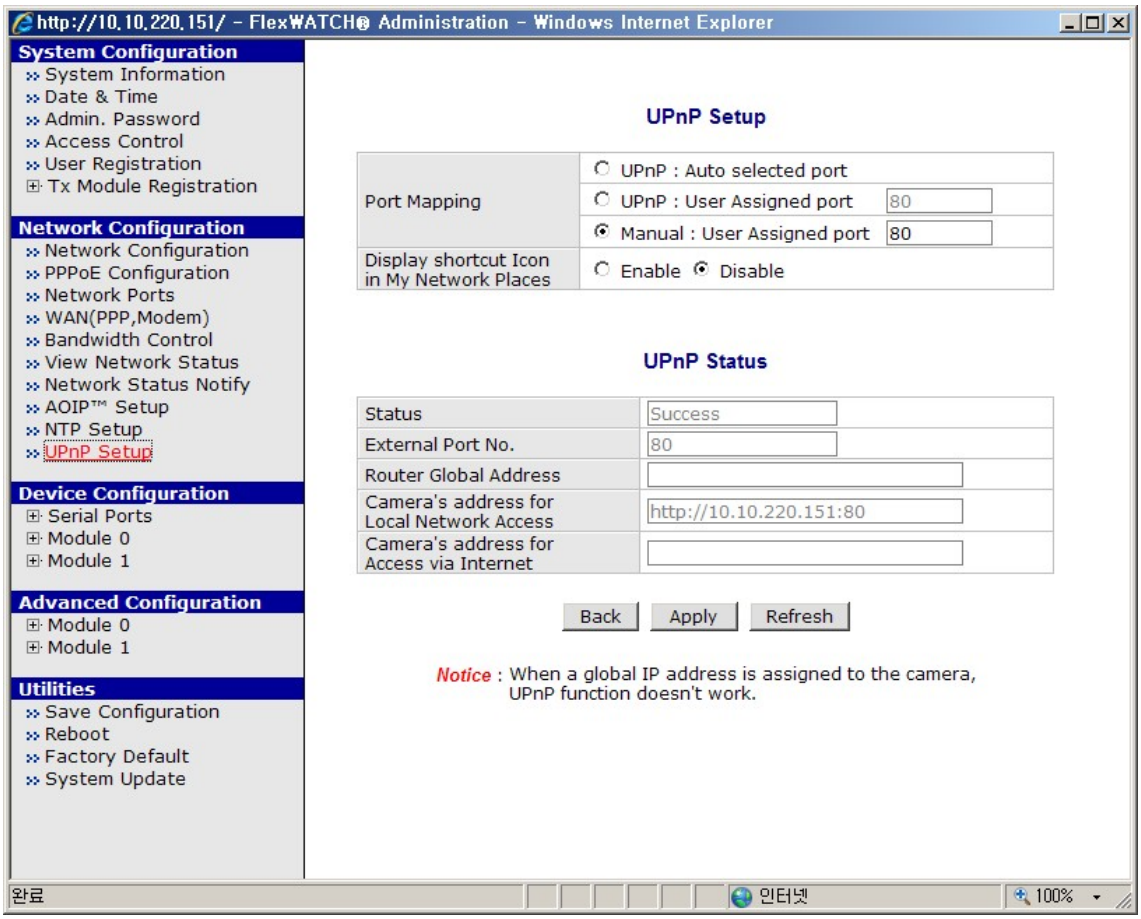
DNC notifies users of current status of installation with Status LED.

Users need to take actions depending on installation status by Status LED.

1. OFF: IP unconfirmed
2. Repetitive ON/OFF every 1 sec: IP confirmed, internet unconfirmed.
3. Repetitive ON/OFF every 1/4 sec: internet confirmed, Port mapping unconfirmed.
4. Repetitive ON/OFF every 1/16 sec: Port mapping completed, no response from AOIP server AOIP
5. ON: test completed in AOIP server, integrity of DNC checked every 1 hour.

   In case access to DNC fails, take installation steps, going back to 1 stage.

2.5.2. UPnP Admin Page setup



- Port mapping -> UPnP Auto Selected Port

Router to support UPnP function executes port mapping automatically by request, result is displayed in UPnP status. External Port number is automatically assigned.

- Port mapping -> UPnP User Assigned Port

Router to support UPnP fuction executes Port mapping with the assigned Port Number, result is displayed in UPnP Status.

In case other device uses same Port Number, result is shown as ‘Fail’.

☞ *Be sure to type port number.*

- Port mapping -> Manual User Assigned Port

UPnP Port mapping is not executed. It is used when port mapping is not necessary or users

tries to do port mapping of router manually.

☞ *Be sure to type port number.*

- Display Shortcut Icon in My Network Places

DNC is displayed in users' network places.

It is required to activate this function with additional OS setup in Windows XP.

☞ *How to activate UPnP function in Windows XP*

1. *Control Panel -> Click 'Add/Remove programs'*
2. *Click 'Add/Remove Windows Components in the left.*
3. *Click 'Networking service' in pop-up.*
4. *Make UPnP user interface 'Enable' and click 'OK'.*
5. *Pop-up disappears, click 'Next'.*
6. *This function is 'Enable' as default in Windows Vista.*

☞ *IP class of PC should correspond to that of DNC.*

☞ *Windows setting in Windows XP is needed although DNC is displayed in 'My Network Places'.*

☞ *DNC is not shown in other applications not Windows VISTA, Windows XP.*

- UPnP Status

Overall operation status of UPnP such as external IP of router, Port Number of Port mapping, internal IP address is displayed

- Refresh Button

UPnP Status is refreshed. Use this button when status is not refreshed after some cases like 'Apply'.

- Apply

Setup is applied. Current Installation steps are checked and are displayed with LED after Status LED is turned off.

One hour takes for DNC to sense this when network environment is changed.

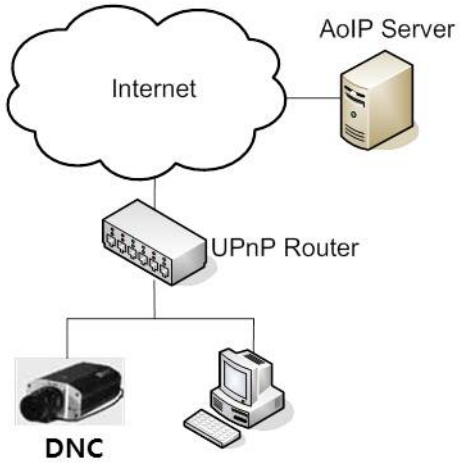
So users can use this when users want to proceed with the all the operation tests without waiting for the time needed.

2.5.3. Setup following network configuration

2.5.3.1. When IP sharer to support UPnP Port mapping is installed in DNC and registration to AOIP server is needed

A. UPnP Port mapping : UPnP-Auto or UPnP-User Assigned

B. AOIP Setting: Enable.

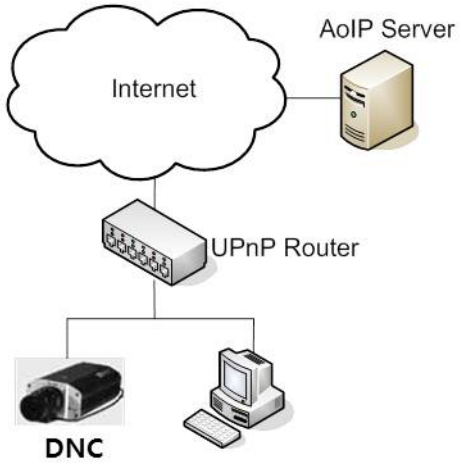


2.5.3.2. When IP sharer to support UPnP Port mapping is installed in DNC and registration to AOIP server is NOT needed

2.5.3.3.

C. UPnP Port mapping : UPnP-Auto or UPnP-User Assigned

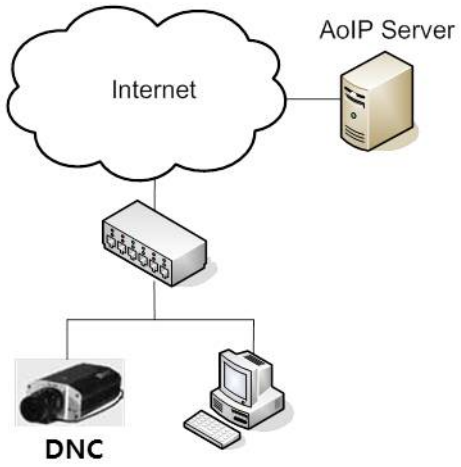
D. AOIP Setting: Disable.



2.5.3.4. When IP sharer not to support UPnP Port mapping is installed in DNC and users want to register DNC to AOIP server by manually do port mapping in sharer.

E. UPnP Port mapping : Manual Assigned (Port : NAT Port assigned by users)

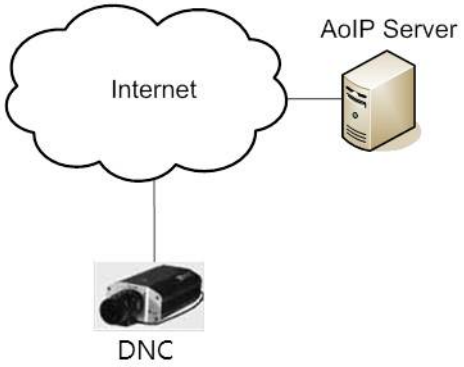
F. AOIP Setting: Enable.



2.5.3.5. When DNC is accessible to internet and users want to register DNC to AOIP server

G. UPnP Port mapping : Manual Assigned (Port : Default Web Port)

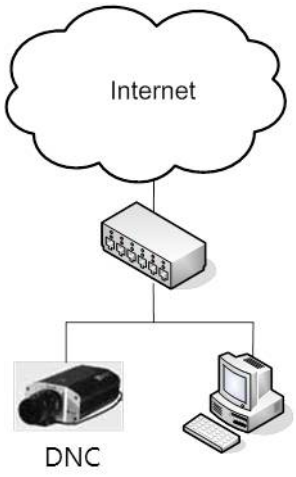
H. AOIP Setting : Enable



2.5.3.6. When IP sharer not to support UPnP port mapping is installed in DNC, users did port mapping in IP sharer manually and registration of AOIP server to DNC is not needed

I. UPnP Port mapping : Manual Assigned (Port : NAT Port assigned by users)

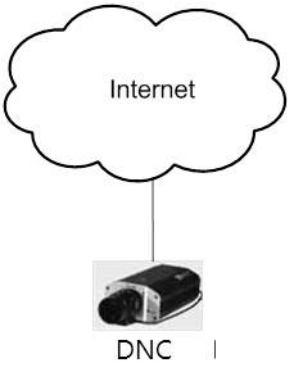
J. AOIP Setting: Disable.



2.5.3.7. When DNC is accessible to Internet directly and registration of DNC to AOIP server is not needed

K. UPnP Port mapping : Manual Assigned (Port : Default Web Port)

L. AOIP Setting: Disable.

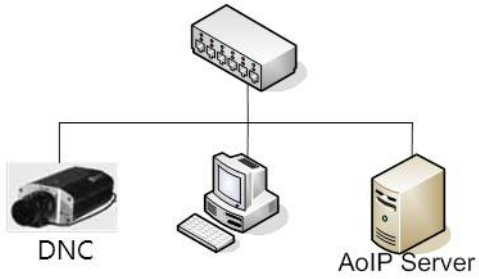


2.5.3.8. DNC is installed in local network, registration of AOIP server is needed

M. UPnP Port mapping : Manual Assigned (Port : Default Web Port)

N. AOIP Setting: Enable.

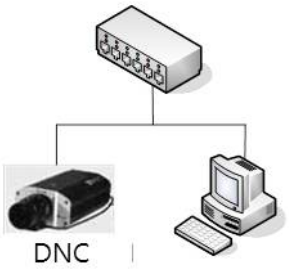
☞ *AOIP server should exist in local network.*



2.5.3.9. DNC is installed in local network, registration of AOIP server is not needed

O. UPnP Port mapping : Manual Assigned (Port : Default Web Port)

P. AOIP Setting: Disable.



2.6. “Home” screen server through the web browser on the PC shown as below.

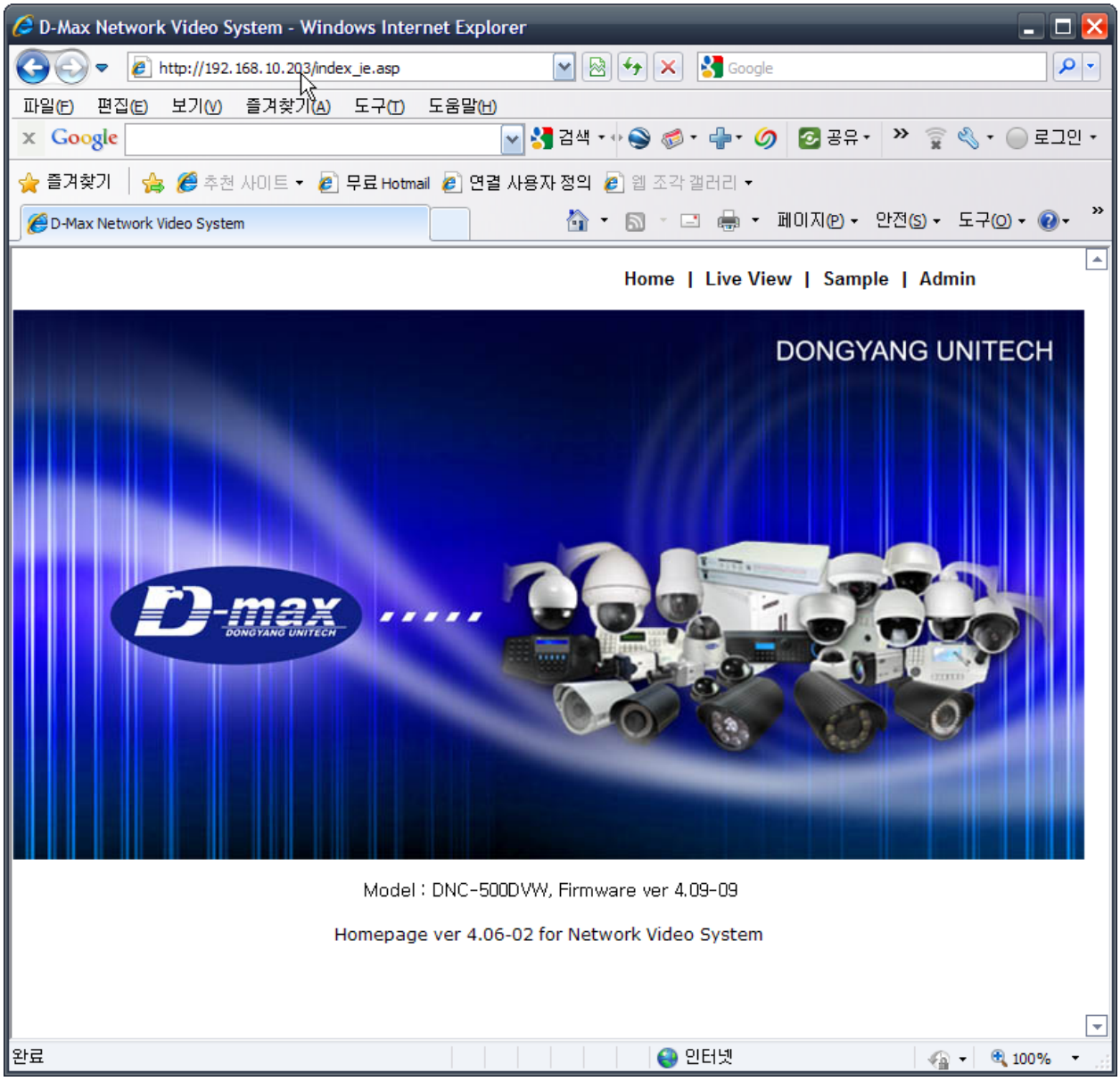

D-Max Network Video System - Windows Internet Explorer
http://192.168.10.203/index_ie.asp
Home | Live View | Sample | Admin
DONGYANG UNITECH
Model : DNC-500DVW, Firmware ver 4.09-09
Homepage ver 4.06-02 for Network Video System

Figure 26 Main page of DNC

2.7. “Live View” Menu

Once users click ‘Live View’ in the upper right, SW “Smart Viewer” is installed automatically (or manually) in PC, then real-time video of server is displayed.

Refer to Smart Viewer manual for further information.

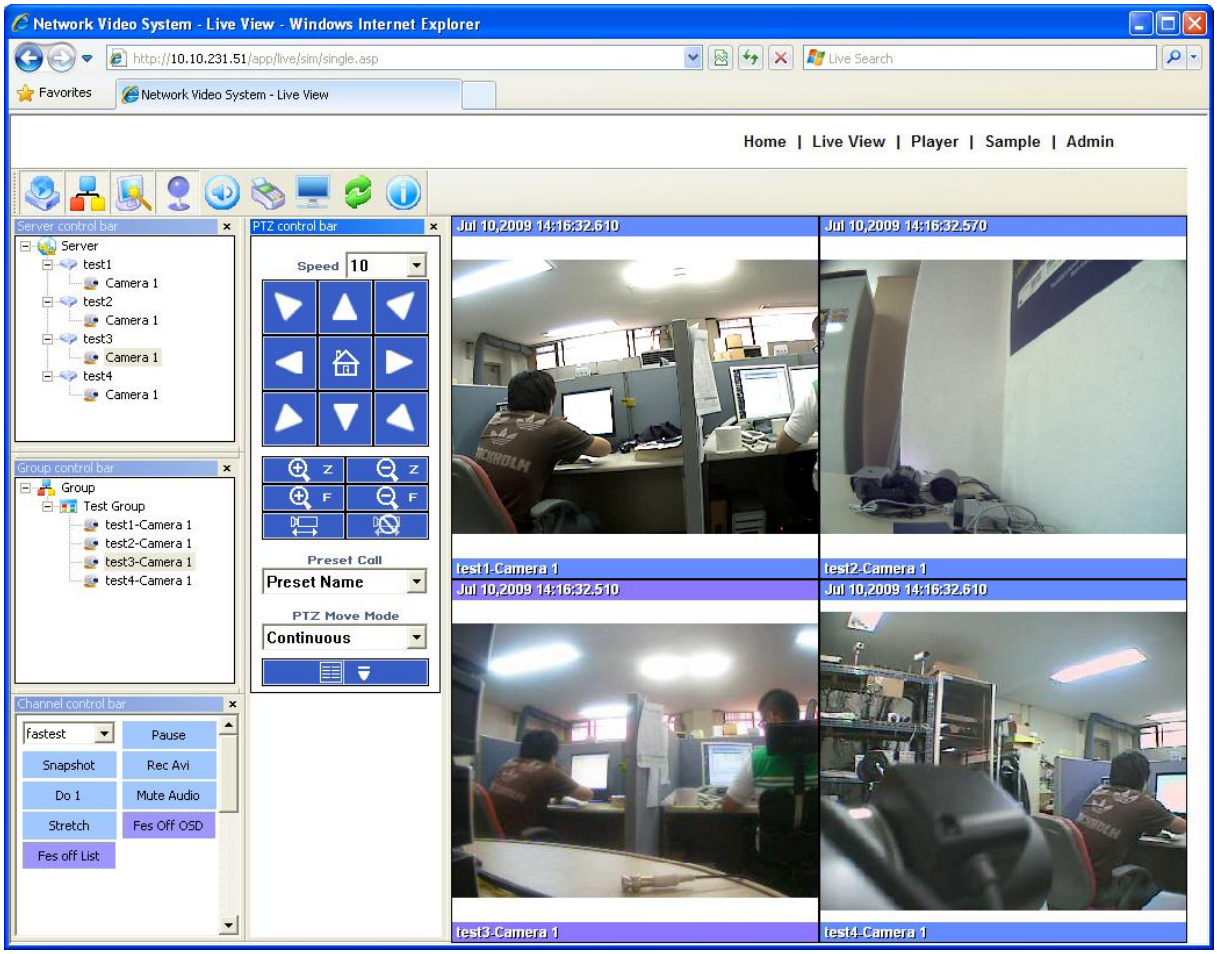


Figure 27 Screen of DNC Live View

2.8. “Player” Menu (NVR only)

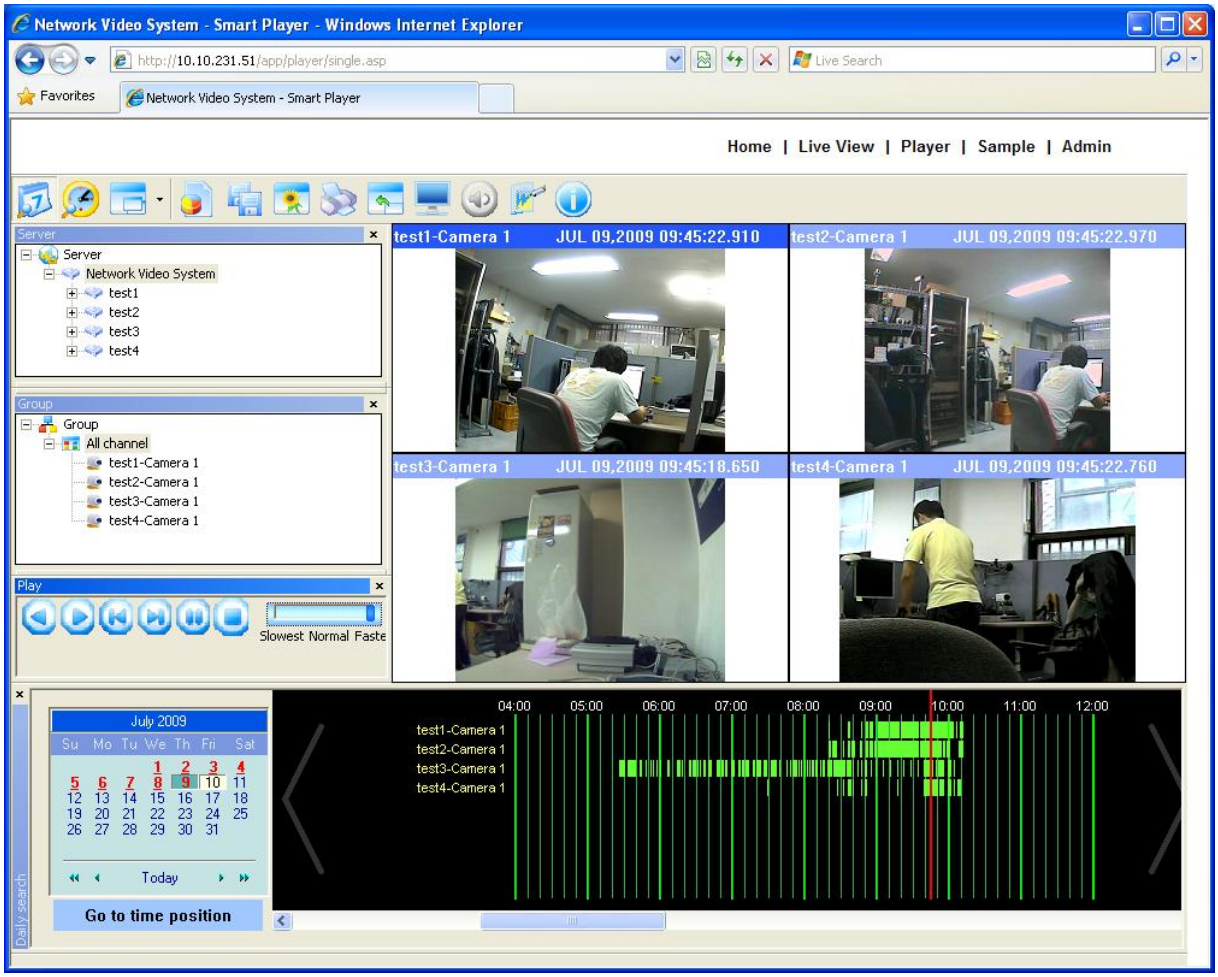


Figure 28 Player

This menu is for searching for videos recorded, SW “Smart Player” is installed automatically (or manually) and users can search for videos by the condition in need after accessing to NVR.

Refer to Smart Player manual for further information.

2.9. “Sample” Menu

In this menu, Sample using SDK is provided.

Sample 1 is for displaying Single stream, Sample 2 is for Single stream & PTZ control and Sample 3 is for snapshot. Sample 2 is usable as MJPEG only. Refer to SDK for further information.

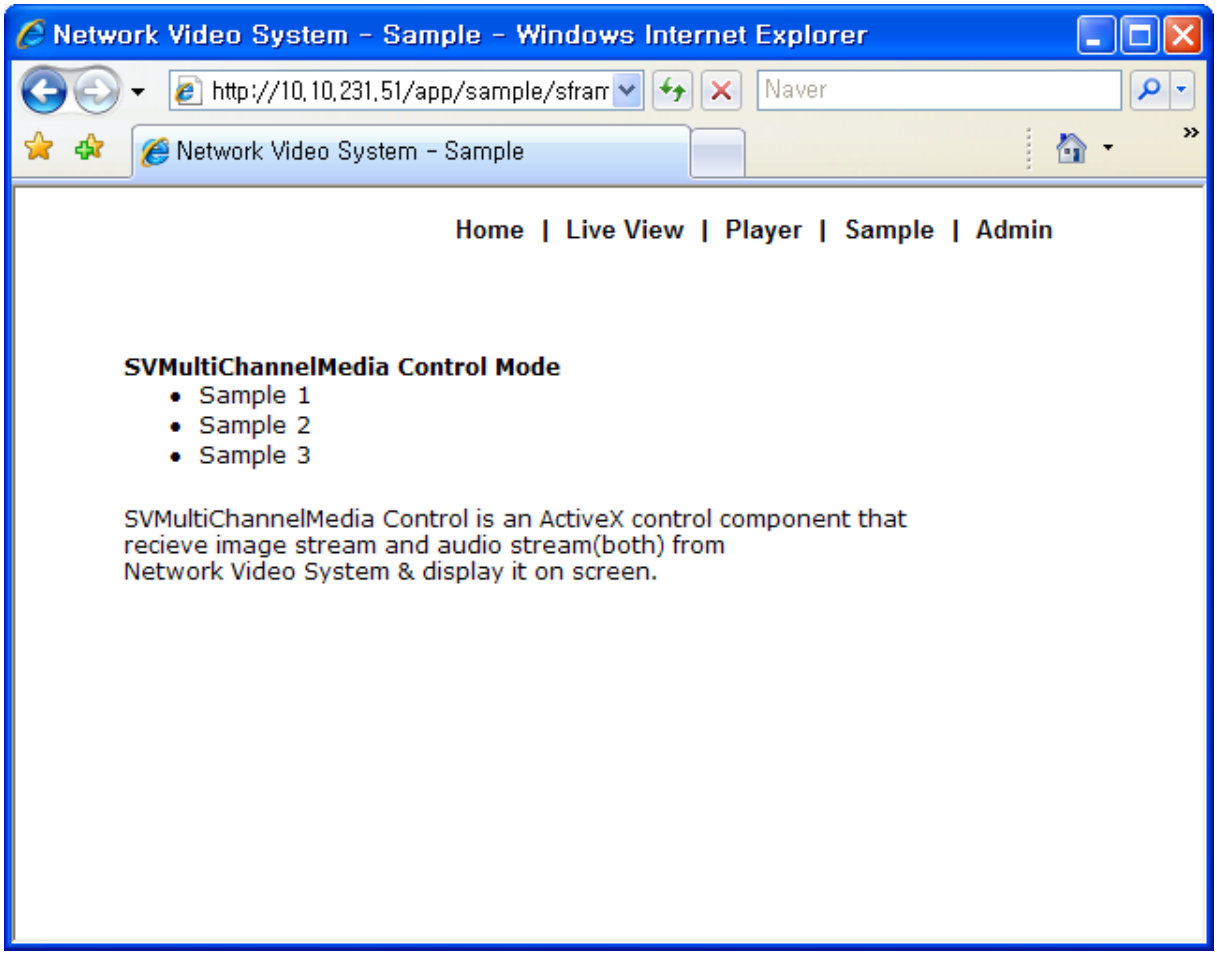

Network Video System - Sample - Windows Internet Explorer
http://10.10.231.51/app/sample/sfram
Naver
Network Video System - Sample
Home | Live View | Player | Sample | Admin
SVMultiChannelMedia Control Mode
Sample 1
Sample 2
Sample 3
SVMultiChannelMedia Control is an ActiveX control component that recieve image stream and audio stream(both) from Network Video System & display it on screen.

Figure 29 Sample

2.10. "Admin" Menu

This menu is the administration menu for a user to manage all the functions of DNC and you need the administrator ID and Password for this menu.

Factory default Admin ID is "root" and Password is "root" and you can change the Password in Admin Menu. (Admin ID can't be changed.)

Please refer to DNC User Manual Part III for more detailed information.

DNC(Dongyang Network Camera)

User's Manual

Part 3

(Admin Menu)

Version 4.06

December 10, 2009

Dongyang Unitech Co., Ltd

www.d-max.co.kr

www.cctvhome.net

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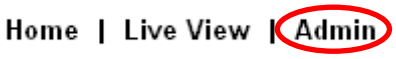
1. Admin Menu

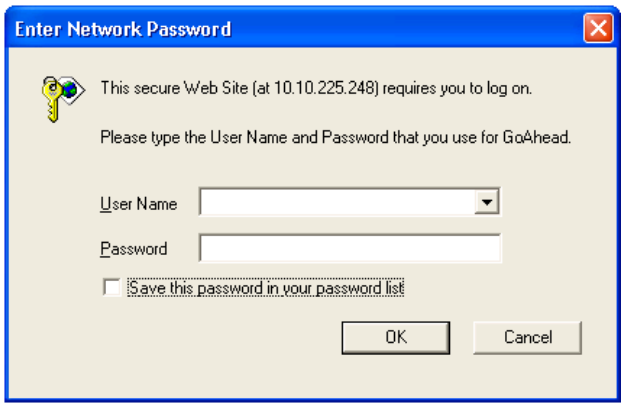
Admin Menu is where you can set up the most of features in DNC Servers. User ID and password for administrator are required to log in. The factory default is **root** for both ID and password. Once logged in, you can change the password to a new one.

1.1. Entering Admin Menu

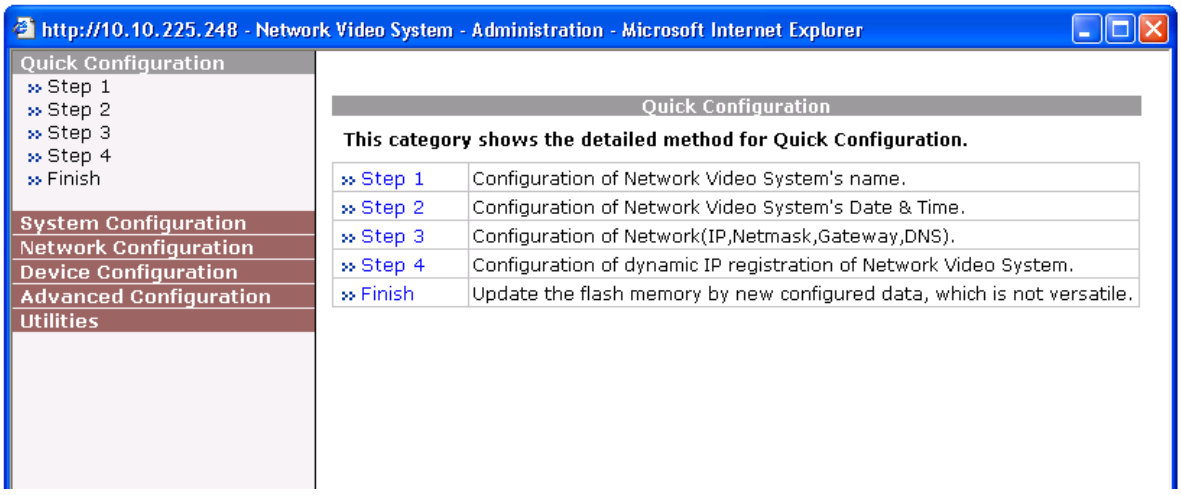
To enter **Admin Menu**, first connect to the DNC server. The initial menu will be displayed on the top right part of the window. Click **Admin** to see a login window.



In the login window, enter **root** for both ID and password as they are the factory defaults. Press **Enter** key or click **OK** button.


Enter Network Password
This secure Web Site (at 10.10.225.248) requires you to log on.
Please type the User Name and Password that you use for GoAhead.
User Name
Password
Save this password in your password list
OK
Cancel

Now the **Admin Menu** will be displayed as shown below. This will guide you to the top level menu items, which are Quick, System, Network, Device, Advanced, Recording, and Utilities. Clicking any of these top level menu items will display submenu items and the brief descriptions.


http://10.10.225.248 - Network Video System - Administration - Microsoft Internet Explorer
Quick Configuration
Step 1
Step 2
Step 3
Step 4
Finish
System Configuration
Network Configuration
Device Configuration
Advanced Configuration
Utilities
Quick Configuration
This category shows the detailed method for Quick Configuration.
Step 1 Configuration of Network Video System's name.
Step 2 Configuration of Network Video System's Date & Time.
Step 3 Configuration of Network(IP,Netmask,Gateway,DNS).
Step 4 Configuration of dynamic IP registration of Network Video System.
Finish Update the flash memory by new configured data, which is not versatile.

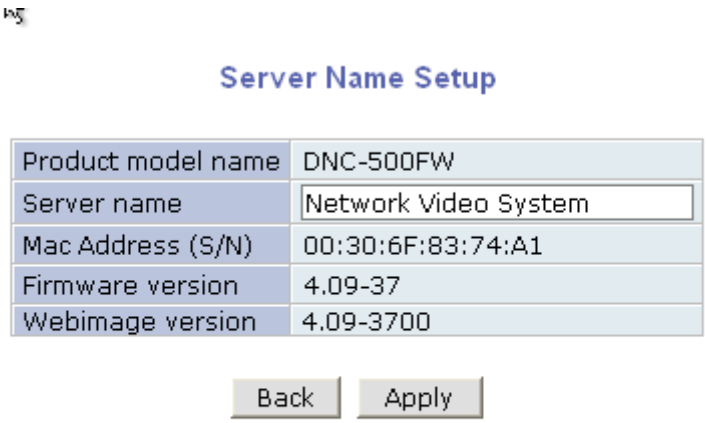
1.2. Admin Menu Structure

Category	Main Menu	Level 1 Sub-Menu	Level 2 Sub-Menu
Quick configuration	Step 1	n/a	n/a
	Step 2		
	Step 3		
	Step 4		
	Step 5		
	Step 6		
	Finish		
System Configuration	Server Name Setup	n/a	n/a
	Date & Time		
	Admin. Password		
	Access Control		
	User Registration		
	IP Devices Registration		
Network Configuration	Network Configuration	n/a	n/a
	PPPoE Configuration		
	Network Ports		
	WAN (PPP, Modem)		
	Bandwidth Control		
	View Network Status		
	Network Status Notify		
	CCTVHOME DNS™		
	Port Forwarding & UPnP		
	RTP/RTSP Setup	Built-in Module 0	n/a
Device Configuration	Serial Ports	Serial Input Mode Serial Output Mode Transparent Mode PTZ Mode	n/a
	Camera & Motion	Camera 1 Camera 2 Camera 3 Camera 4	n/a
	DI/DO	n/a	n/a
	DI Status/DO Control	n/a	n/a
Advanced Configuration	Advanced Services	E-mail FTP(Buffed) FTP(Periodic) Sensor Notification Alarm Output	Camera 1 Camera 2 Camera 3 Camera 4
	ISENSE	n/a	n/a
Utilities	Save Configuration		
	Reboot		
	Factory Default		
	System Update		

2. Quick Configuration

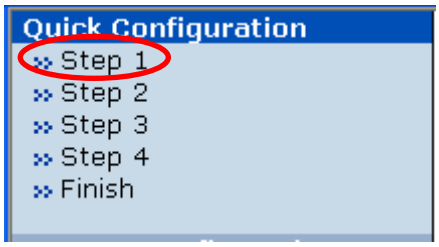
2.1. Step 1: Changing Server Name

In step 1, you can find out the system information as model number of the DNC Server, server name, MAC address (serial number), firmware version, and webimage version.



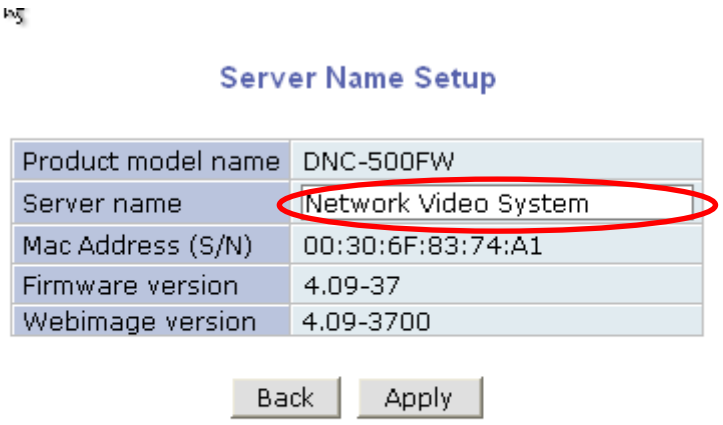
Notice : The server name can be 21 alphanumeric or 10 unicode.

As an administrator, you can change the name of the server name here, but other values are not allowed to change. If you want to change the server name to a new one, click **Step 1** on **Quick Configuration**.



Now enter a new server name. You may use up to 21 alphanumeric or up to 10 Unicode characters. Tab or any other special characters are not allowed. Product model name, Mac Address (S/N), Firmware version, Webimage version are not allowed to change.

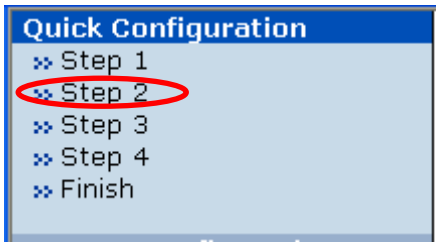
After entering the new server name, click **Apply** button to save the setting and it will take effect immediately.



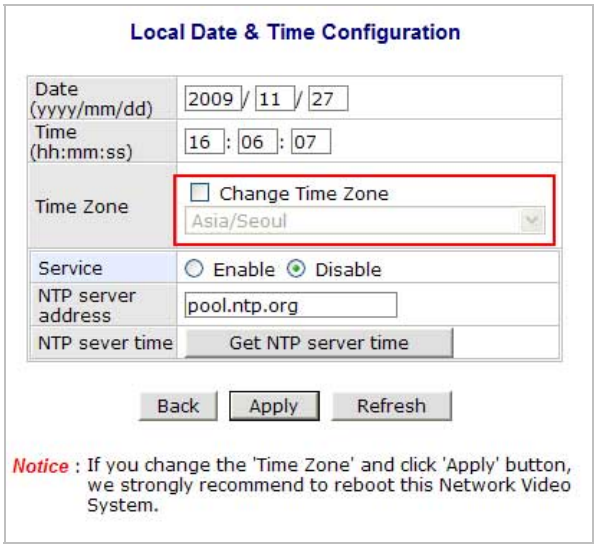
Notice : The server name can be 21 alphanumeric or 10 unicode.

2.2. Step 2: Time Setup

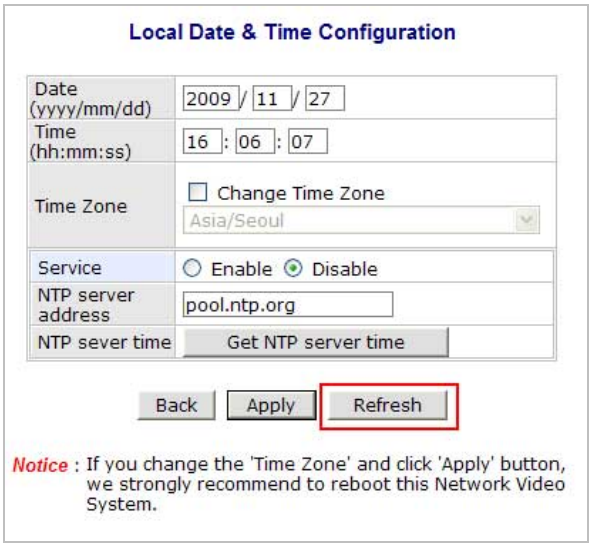
You can set up time and date here. First, click **Step 2** on **Quick Configuration**.



Fill the **Date** and **Time** fields with your local time and date information. If you're in a different time zone, put a checkmark on **Change Time Zone**, then select the correct region from the list box. To take the time zone change in effect, you need to click **Apply** button and reboot the system.



If you only changed **Date** and **Time** setting, you simply click **Apply** button to take it into effect immediately. If you want to retrieve the exact current time from NTP server on the network, click **Get NTP Server Time** button. Clicking **Refresh** button will display the date and time retrieved from DNC® Server.



☞ *In order to retrieve Time and Date information from a NTP server, you need to put NTP server address in advance of setting up, such as pool.ntp.org.*

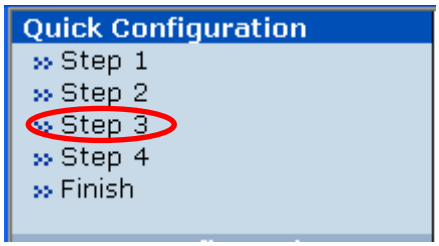
2.3. Step 3: Network Setup

To make a connection to the Internet, it is required to figure out the type of the Internet service you're using. Depending on the service type, the network configuration can be in any of Static IP, DHCP Client, or PPPoE. You need to set up the DNC Server according to your network type.

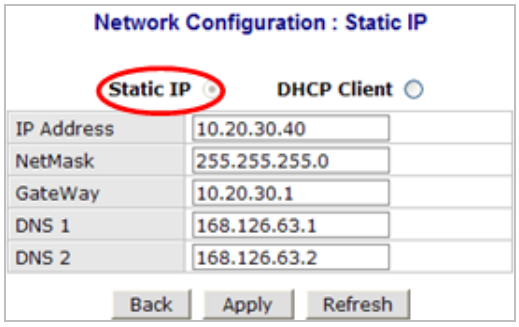
- **Static IP**: The DNC Server is assigned a permanent fixed IP address.
- **DHCP Client**: In this case, ISP or network gateway is running a DHCP server. Most of ISP services such as cable modem or DSL are providing this type of service. DNC server needs to be configured to be DHCP Client so that it can be assigned a dynamic IP address.
- **PPPoE**: Many of DSL services over phone line are providing this type of Internet connection. It can be used in password-based authentication environment.

2.3.1. Static IP Configuration

Click on **Step 3**, then the network configuration window will be displayed.



Select **Static IP**, and you will be able to change **IP Address**, **NetMask**, **Gateway**, **DNS1**, and **DNS2** fields.

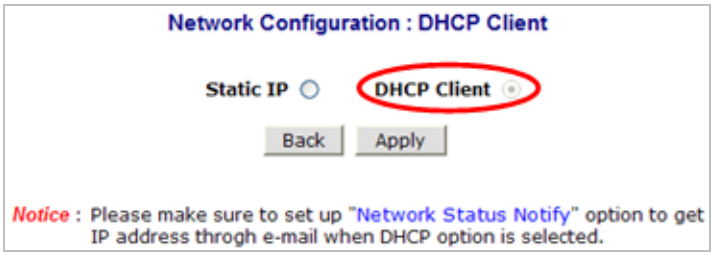


Enter the pre-assigned IP Address, NetMask, Gateway, DNS1, and DNS2 values respectively.

Click **Apply** button to save the settings. If you don't want to save it, click **Back** button. Clicking **Refresh** button will restore the condition back to the original before clicking **Apply**.

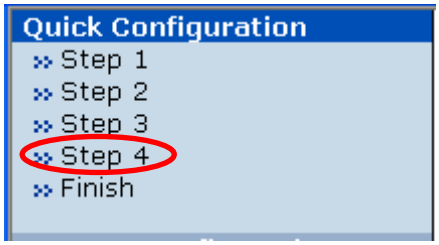
2.3.2. DHCP Client Configuration

The default network type is set to DHCP Client and default DNS is set to KT DNS in DNC Servers. Selecting **DHCP Client** on the **Network Configuration** will show the window shown below. Click **Apply** button to save the setting. Otherwise, click **Back** button.


Network Configuration : DHCP Client
Static IP
DHCP Client
Back
Apply
Notice : Please make sure to set up "Network Status Notify" option to get IP address throgh e-mail when DHCP option is selected.

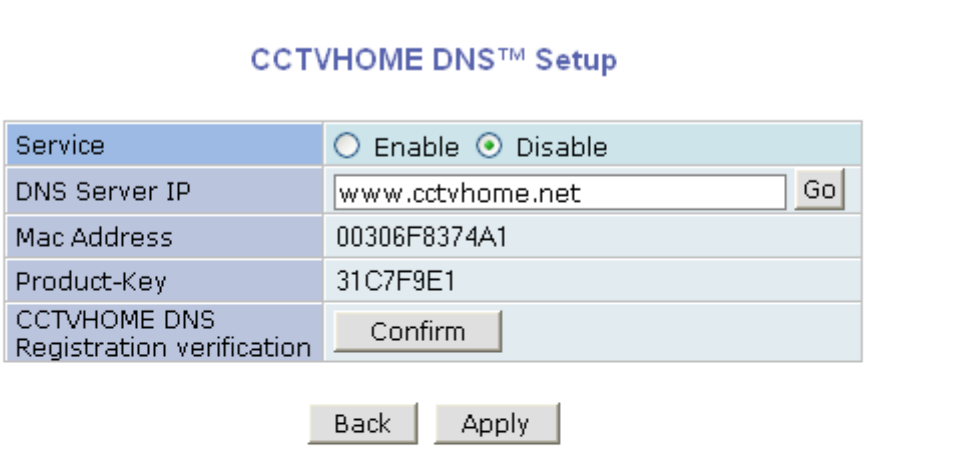
2.4. Step 4: CCTVHOME DNS

When DNC Server is used in a Dynamic IP environment, it is required to utilize **CCTVHOME DNS** feature. In **Step 4** of **Quick Configuration** menu, you set DNC server to inform the **CCTVHONME DNS** of the IP address being used.



First, you need to register in **CCTVHOME DNS** at http://cctvhome.net to have a user account. Next, enter the MAC address and the product key, and configure **CCTVHOME DNS** accordingly, then DNC Server becomes accessible from you all the time even in Dynamic IP environment.

To start using **CCTVHOME DNS** feature, select the **Enable** on the service field. Enter the address of the **CCTVHOME DNS** Server that the system is registered in. Click **Apply** button to save the setting.



Notice : If you do not use public dynamic IP address for the remote access. please skip this step.
This is related with www.cctvhome.net
Different IP address or URL must follow the same protocol of www.ipcctvdns.com
If you click Confirm button, you can verify registered URL on CCTVHOME DNS.
If product is not registered on CCTVHOME DNS, you can not verify registered URL.

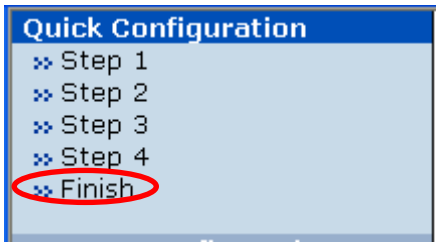
✓ The address of IP-CCTV DNS™ Server is http://www.cctvhome.net.

☞ *Refer to CCTVHOME DNS ™ User's Manual for further details of the configuration.*

✓ After the DNC server is successfully registered in CCTVHOME DNS™, you can check the Internet URL by clicking **Confirm** button.

2.5. Finish

You need to save all the changes to the Flash Memory after finishing the configuration. The changes made to DNC Server will be permanent by this step. Click **Finish** on **Quick Configuration** menu.



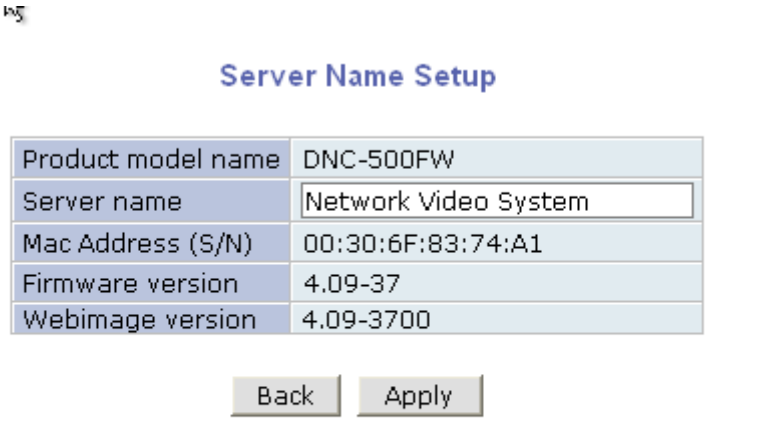
Click **Save Configuration** button. This will write the new settings to the system's flash memory. If you don't want to save them, click **Back** button.

Save Configuration
Save Configuration is required to save all of new configuration in the system. Otherwise, no new configuration will be saved and effective.
If you do not want to save your new configuration, do not click 'Save Configuration' button.
Back
Save Configuration

3. System Configuration Menu

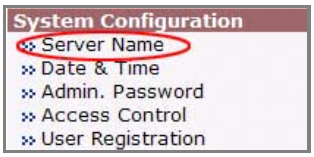
3.1. Server Name Setup

You can find the system information such as the model number of DNC Server, server name, MAC address (serial number), firmware version, and webimage version. As an administrator, you can change the name of the server name here, but other values are not allowed to be changed.

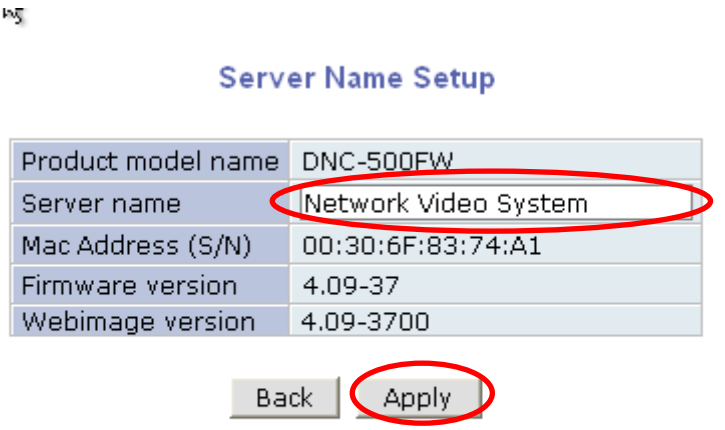


Notice : The server name can be 21 alphanumeric or 10 unicode.

Click **Server Name** on the System Configuration menu.



For a new **Server Name,** you may use up to 21 alphanumeric or up to 10 Unicode characters. Tab or any other special characters are not allowed. You are not allowed to change Product model name, MAC Address (Serial Number), Firmware version, and Webimage version. They are all remained in original condition.



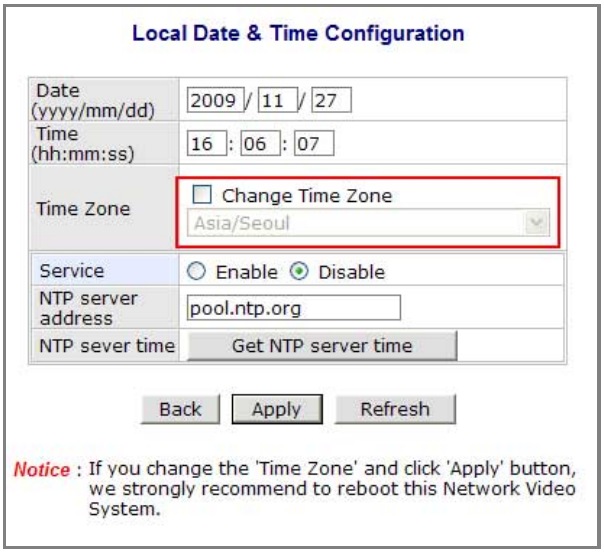
Notice : The server name can be 21 alphanumeric or 10 unicode.

After entering the new server name, click **Apply** button to save the setting. In this case, the new server name takes effect immediately.

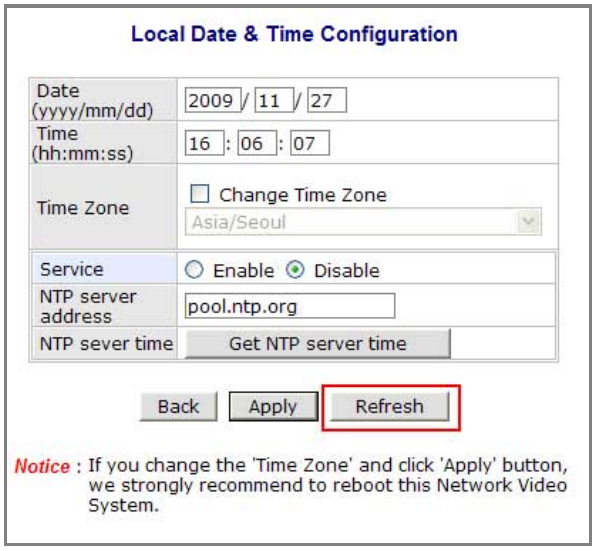
3.2. Date & Time

Click **Date & Time** on System Configuration menu. **Local Date & Time Configuration** window will be displayed.

Fill the **Date** and **Time** fields with your current local time and date information. If you're in a different time zone, put a checkmark on **Change Time Zone** checkbox, then select a correct region from the list box. To put the time zone change in effect, you need to click **Apply** button and reboot the system.



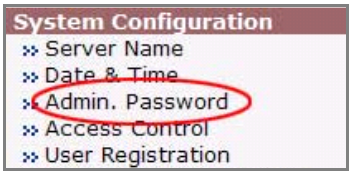
When you changed only Date and Time, you simply click **Apply** button to take it into effect immediately. If you want to retrieve the exact current time from NTP server over the network, click **Get NTP server time** button. Clicking **Refresh** button will display the date and time from DNC® Server.



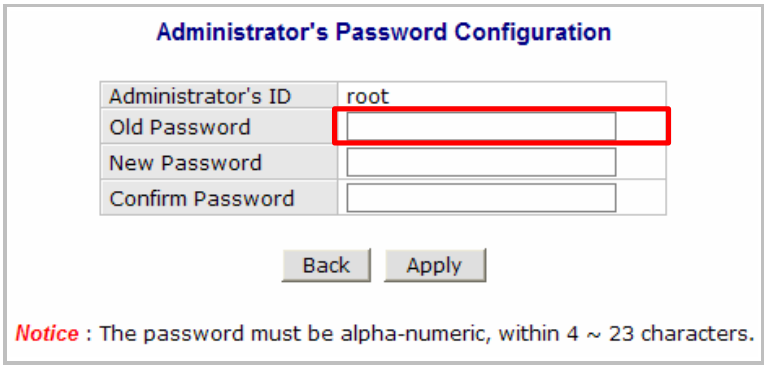
☞ *In order to retrieve Time and Date information from a NTP server, you need to put NTP server address in advance, such as pool.ntp.org.*

3.3. Admin Password Configuration

In this menu, you can change the password for admin account. Default ID for admin account is fixed as "**root**" and not allowed to change. To change the password for admin, click **Admin Password** on System Configuration menu.



In **Old Password** field, enter the current password. In both **New Password** and **Confirm Password** fields, enter the same new password. The password must be between 4 and 23 alphanumeric characters.

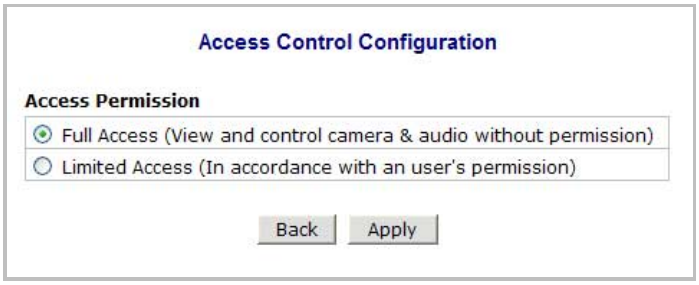


Click **Apply** button to put it into effect. Because you have replaced the password with a new one, the existing network connection made with old password to DNC Server is lost now. In this case, you have to reconnect to the DNC server using new password.

3.4. Access Control

In this menu, you can define the accessibility and privileges of users. To start to configure, click **Access Control** on System Configuration menu.

From the **Access Permission** window, select either one you would like to use. Click **Apply** button to save the change.


Access Control Configuration
Access Permission
Full Access (View and control camera & audio without permission)
Limited Access (In accordance with an user's permission)
Back
Apply

Full Access	Any user can access the server and use all the features without limit.
Limited Access	Only registered users can access the server and have limited privileges.

3.5. User Registration

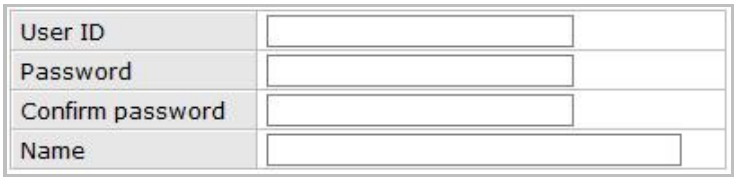
You can add, modify, or delete users for your DNC® Server in **User Registration**. Once registered as **Limited Access** setting, the user can access the DNC Server with limited privileges.

3.5.1. Add

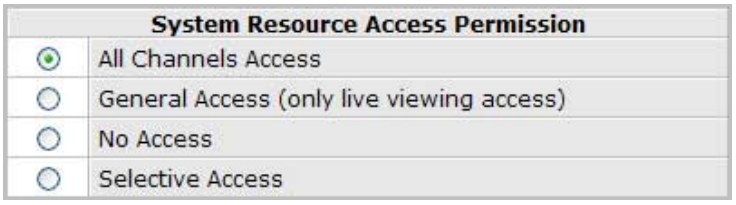
When **Add** is selected, you can add users and define their passwords, names, and access permission levels respectively. To add a user, click **User Registration** on **System Configuration** menu.

Next, select **Add**, then the **User Registration (Add)** selection screen will be displayed.

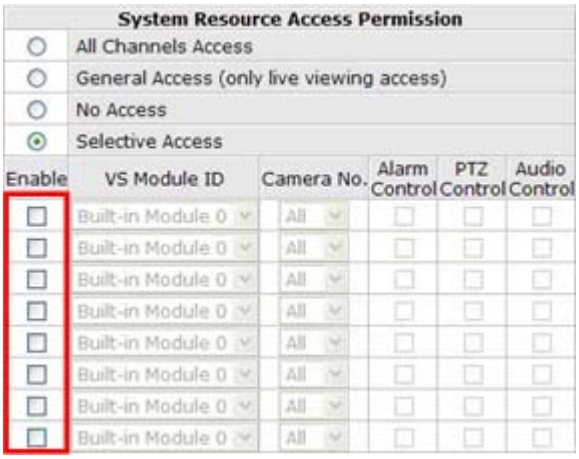
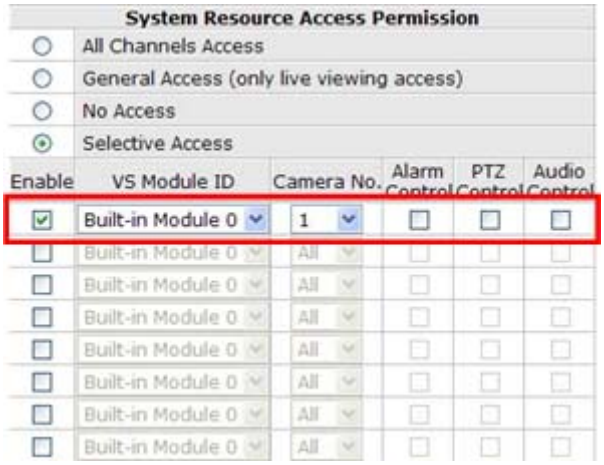
Enter a user ID, which must consist of up to 23 alphanumeric characters. In both **Password** and **Confirm Password** fields, enter the identical password respectively. The password must be between 4 and 23 alphanumeric characters. In **Name** filed, enter the user's name that must be up to 31 alphanumeric or 15 Unicode characters.



Now select one of the four items from **System Resource Access Permission**, which defines the permission level for registered users to the DNC server.



All Channels Access	User can use all the features except for Configuration in Admin Page.
General Access (only live viewing access)	User can use only Live View, but not PTZ, Audio, or DI/DO control.
No Access	User is not allowed for any of the features.
Selective Access	User is allowed to use only the selected features. With this item selected, user can now configure the details under the menu.

	
Enable	DNC Server can have multiple VS modules registered in it. When user ticks on any of **Enable** checkboxes, other fields in that row are enabled to select.
	
VS Module ID	The registered user can select VS Modules that are available. (VS Module is a network device that has been registered in DNC® Server)
Camera No.	Among the cameras of VS Module, select one to set up. (between 1 and 4)
Alarm Control	Determine if Alarm is to be used.
PTZ Control	Determine if PTZ Control is to be used.
Voice Control	Determine if Audio Control is to be used.

After finishing the registration process, click **Apply** button to add the user.

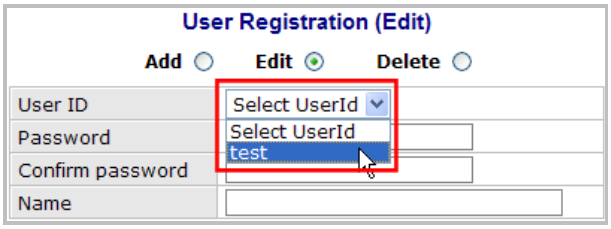
3.5.2. Edit

When **Edit** is selected, you can modify the existing user's name, password, and access permission. User ID is not allowed to change. Once selecting a user ID for edit, the usage is the same as in **Add** section.

To edit a user account, select **Edit**.

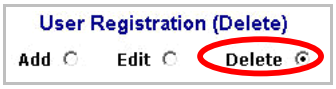
To see existing users, click **Select UserId**, and select a user to be edited. Then change the password, name, or access permission, and click **Apply** button to save the setting. Setup of Access

Permission can be done the same way as in **Add** section.

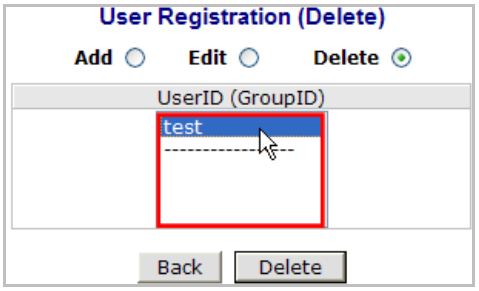


3.5.3. Delete

To delete an existing user, select **Delete**.



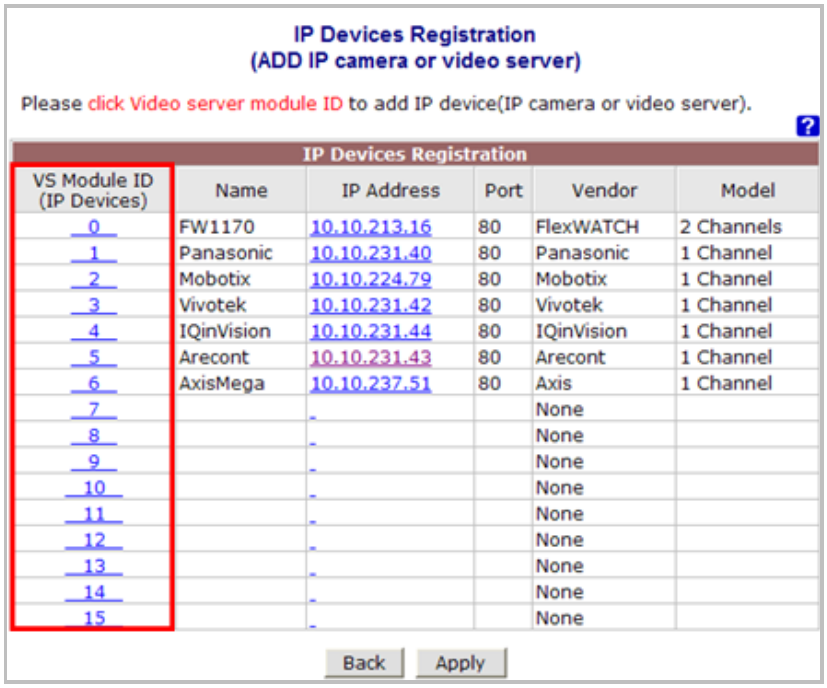
From the list of the users, select a user to delete. Click **Delete** button to confirm the deletion.



3.6. IP Devices Registration

In this section, you can add NVS (Network Video Server) and NCS (Network Camera Server) to the NVR (Network Video Recorder) as remote server devices. Click **IP Devices Registration** on **System Configuration** menu.

Select one of the **VS Module ID (IP Devices)** from the list to add as a remote server. DNC Server supports vendors such as Axis, Panasonic, Vivotek and more than 10 others as well as DNC products. When multiple servers are added, the maximum number of total channels from the servers can't exceed 16.



IP Devices Registration
(ADD IP camera or video server)

Please click Video server module ID to add IP device(IP camera or video server).

IP Devices Registration

VS Module ID (IP Devices)	Name	IP Address	Port	Vendor	Model
0	FW1170	10.10.213.16	80	FlexWATCH	2 Channels
1	Panasonic	10.10.231.40	80	Panasonic	1 Channel
2	Mobotix	10.10.224.79	80	Mobotix	1 Channel
3	Vivotek	10.10.231.42	80	Vivotek	1 Channel
4	IQinVision	10.10.231.44	80	IQinVision	1 Channel
5	Arecont	10.10.231.43	80	Arecont	1 Channel
6	AxisMega	10.10.237.51	80	Axis	1 Channel
7				None	
8				None	
9				None	
10				None	
11				None	
12				None	
13				None	
14				None	
15				None	

Back Apply

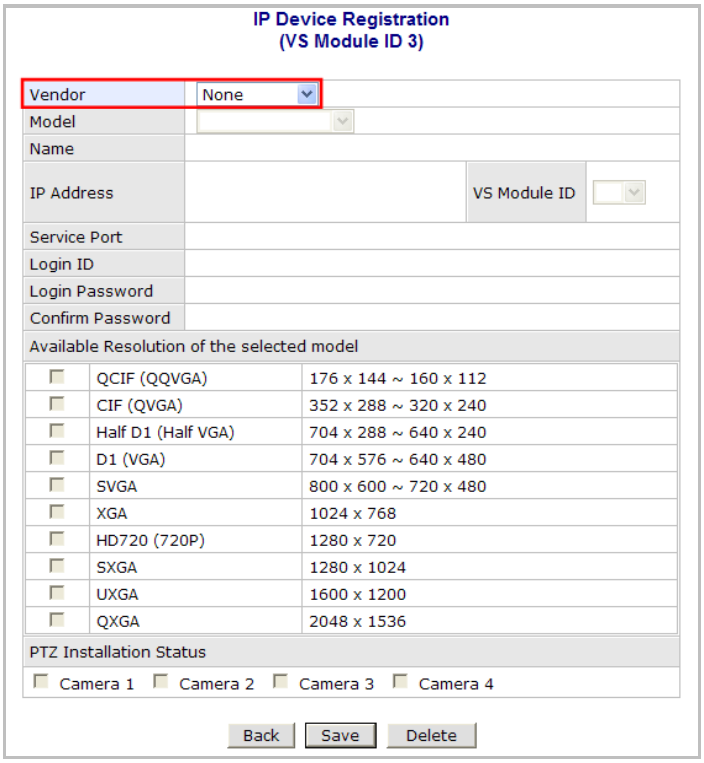
Each IP NVR model has different number of supported channels which can be added.

- ✓ FW-5050: Up to 8 channels including other vendor's model (3M pixel supported)
- ✓ FW-5071: Up to 16 channels including other vendor's model (3M pixel supported)
- ✓ FW-5450: Up to 16 channels including other vendor's model and analog (D1 supported)
- ✓ FW-5850: Up to 16 channels including other vendor's model and analog (D1 supported)

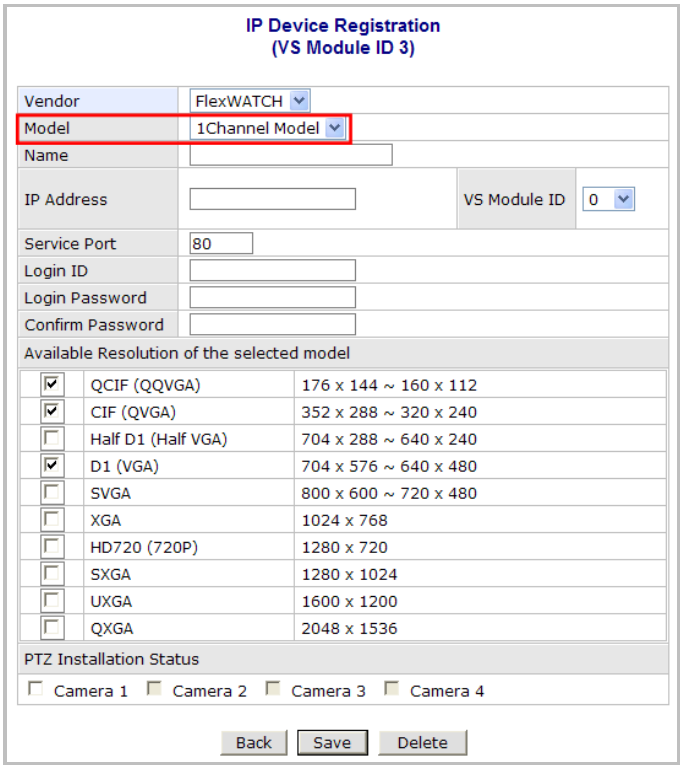
After addition VS Module ID (IP Devices), click **Apply** button to store the setting.

3.6.1. Adding VS Module ID (IP Devices)

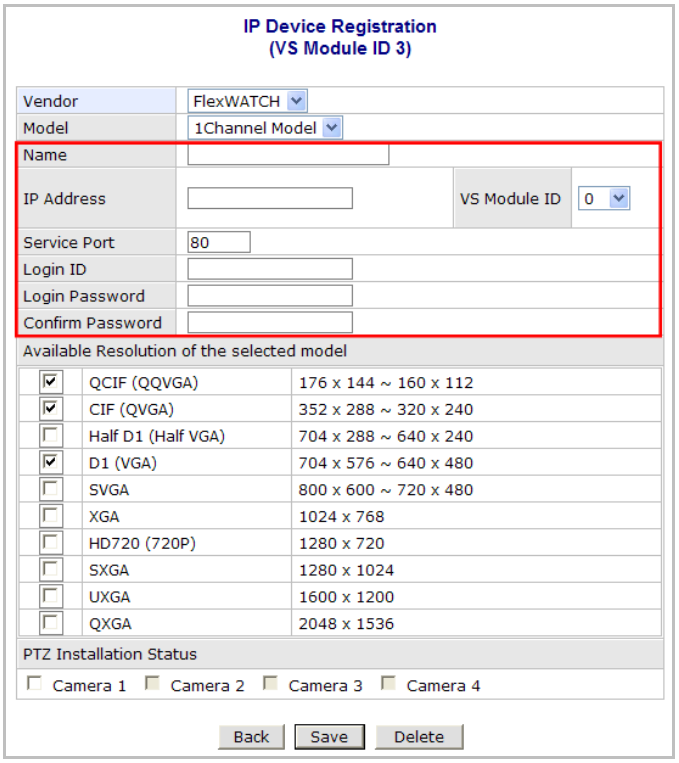
Select an item from **VS Module ID (ID Devices)**, and choose the vendor name of the server.


IP Device Registration
(VS Module ID 3)
Vendor
None
Model
Name
IP Address
VS Module ID
Service Port
Login ID
Login Password
Confirm Password
Available Resolution of the selected model
QCIF (QQVGA) 176 x 144 ~ 160 x 112
CIF (QVGA) 352 x 288 ~ 320 x 240
Half D1 (Half VGA) 704 x 288 ~ 640 x 240
D1 (VGA) 704 x 576 ~ 640 x 480
SVGA 800 x 600 ~ 720 x 480
XGA 1024 x 768
HD720 (720P) 1280 x 720
SXGA 1280 x 1024
UXGA 1600 x 1200
QXGA 2048 x 1536
PTZ Installation Status
Camera 1 Camera 2 Camera 3 Camera 4
Back Save Delete

Select the number of channels to add.

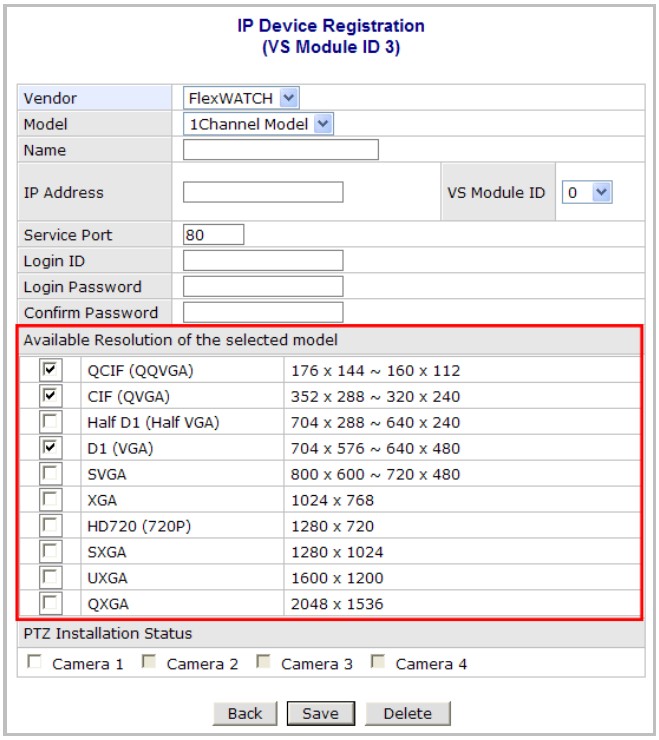

IP Device Registration
(VS Module ID 3)
Vendor
FlexWATCH
Model
1Channel Model
Name
IP Address
VS Module ID
0
Service Port
80
Login ID
Login Password
Confirm Password
Available Resolution of the selected model
QCIF (QQVGA) 176 x 144 ~ 160 x 112
CIF (QVGA) 352 x 288 ~ 320 x 240
Half D1 (Half VGA) 704 x 288 ~ 640 x 240
D1 (VGA) 704 x 576 ~ 640 x 480
SVGA 800 x 600 ~ 720 x 480
XGA 1024 x 768
HD720 (720P) 1280 x 720
SXGA 1280 x 1024
UXGA 1600 x 1200
QXGA 2048 x 1536
PTZ Installation Status
Camera 1 Camera 2 Camera 3 Camera 4
Back Save Delete

Now enter the name of the server, IP Address, VS Module ID (for DNC only), Server Port, Login ID/Password



Name	Name of the server to add
IP Address	IP Address of the server to add
VS Module ID	Applicable to DNC only. Enter 0 for other vendor's models.
Service Port	Web port number of the server
Login ID / Password / Confirm Password	User ID and Password of the server

Select the video resolution of the server to add. Put check marks on the resolutions supported by the server you're adding here.



Please refer to the User's Manual of each product to find out the supported resolutions.

If PTZ functionality is provided by the server, put check marks on Camera 1 to 4 on **PTZ Installation Status**. Then you will be able to control each camera's PTZ in Live Viewer.

After setup is finished, click **Save** button to add the server, and later click **Apply** button in IP Device Registration to take the changes into effect. If **Delete** button is pressed, the added server is removed from the setup and Live Viewer doesn't provide you the video.

4. Network Configuration

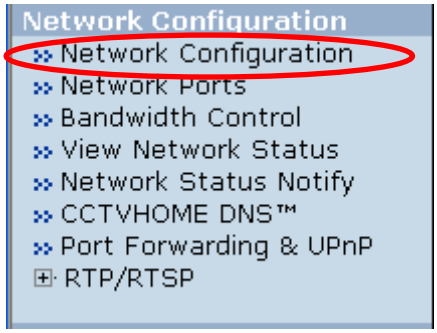
4.1. Network Configuration

To make a connection to the Internet, it is required to figure out the type of the Internet service you're using. Depending on the service type, the network configuration can be in any of Static IP, DHCP Client, or PPPoE. You need to set up the DNC Server according to your network type.

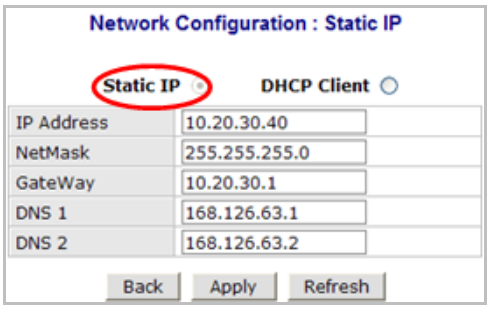
- **Static IP**: The DNC Server is assigned a permanent fixed IP address.
- **DHCP Client**: In this case, ISP or network gateway is running a DHCP server. Most of ISP services such as cable modem or DSL are providing this type of service. DNC server needs to be configured to be DHCP Client so that it can be assigned a dynamic IP address.
- **PPPoE**: Many of DSL services over phone line are providing this type of Internet connection. It can be used in password-based authentication environment.

4.1.1. Static IP Configuration

Click **Network Configuration** on **Network Configuration** menu.



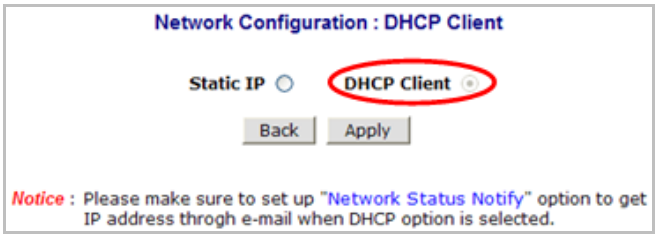
When you select **Static IP**, the Static IP configuration screen will be displayed. You can change IP Address, NetMask, Gateway, DNS1, and DNS2 here. If you're given new values for those fields, enter them in each input box.



Click **Apply** button to save the change. If you don't want to save it, click **Back** button. Clicking **Refresh** button will restore the original condition.

4.1.2. DHCP Client Configuration

The default condition of Network Configuration is DHCP Client. With **DHCP Client** selected, click **Apply** button to save the change. If you don't want to save it, click **Back** button.


Network Configuration : DHCP Client
Static IP
DHCP Client
Back
Apply
Notice : Please make sure to set up "Network Status Notify" option to get IP address throgh e-mail when DHCP option is selected.

4.2. Network Ports

In this configuration, you set up the HTTP port for DNC® Server to communicate with the Client PC.

4.2.1. HTTP Port

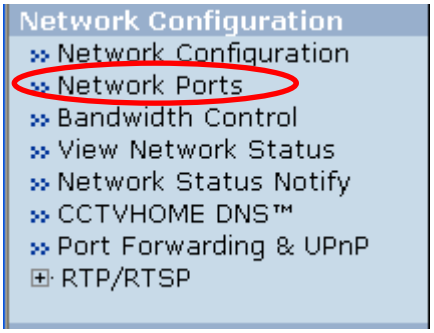
This is the network port that is used when a Client PC connects to the DNC® Server's Web page. It can be assigned between 80 and 65535 and the default value is 80.

☞ *If the HTTP port number is changed to other value than default (80), make sure the new HTTP port number goes together with the DNC Server's Internet address. For example, when DNC's IP address is 192.168.1.00 and set the HTTP port to 8080, you will have to enter*

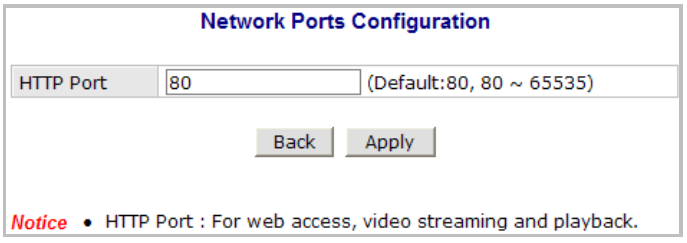
http://192.168.1.100:8080 to connect to the server.

4.2.2. Network Ports Configuration

Click **Network Ports** on Network Configuration menu.



Enter an HTTP port number you want to use, and click **Apply** button to save the change.



4.3. WAN (PPP, Modem)

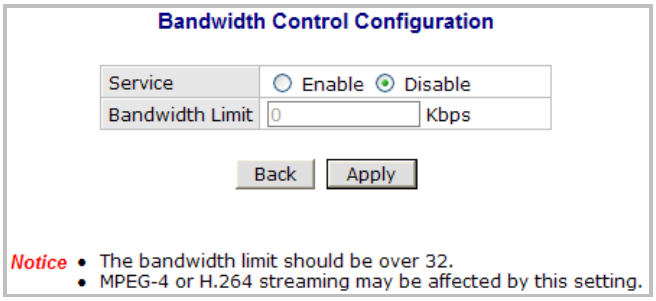
If the DNC Server has a PSTN modem, this section needs to be configured to make a PPP connection through the modem.

- ✓ PSTN: Dialup telephone line provided telecommunication companies
- ✓ PPP: Asynchronous network protocol mostly used to provide TCP/IP on telephone lines

4.4. Bandwidth Control Configuration

With this feature, you can set the maximum network traffic on DNC® Server. If there occurs more network traffic than you set up here, DNC® server randomly drops any of the data packets to limit the total bandwidth.

To configure, click **Bandwidth Control** on the menu, and the configuration window will be displayed. If bandwidth control feature is to be used, select **Enable**. Enter the maximum bandwidth you desire in **Bandwidth Limit** box. The maximum bandwidth is total sum of all the packet data which includes M-JPEG, MPEG-4, and H.264. Click **Apply** to save the change.

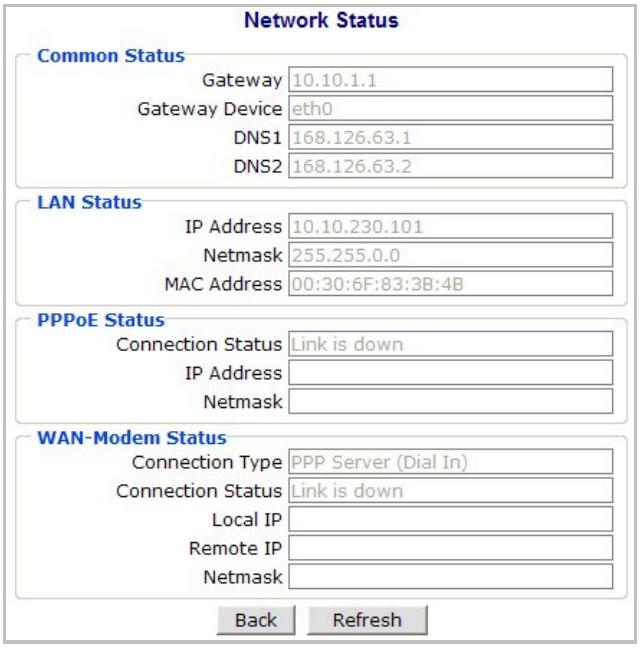


☞ *This bandwidth control feature works fairly well in M-JPEG video transmission. But, for MPEG-4 and H.264, dropping data packets may cause low quality of video, so it is recommended to utilize CBR and frame rate control instead of bandwidth control for MPEG-4 and H.264 video.*

☞ *Network Bandwidth control is managed by DNC® Server and it drops any data packets if required, thus you may experience slow connection to the server when the feature is enabled.*

4.5. View Network Status

You can see the status of the DNC® Server with this feature. Click Refresh button to reload the updated information from the server.



4.6. Network Status Notify

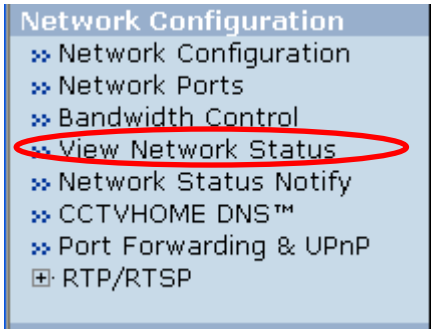
If **Network Status Notify** is set to **Enable**, DNC Server's network status will be emailed to a specific person in case of the following events:

- When it is set to **Dynamic IP** on Network Configuration menu, and the DNC server has been given a new dynamic IP address and connected to the network.

Or,

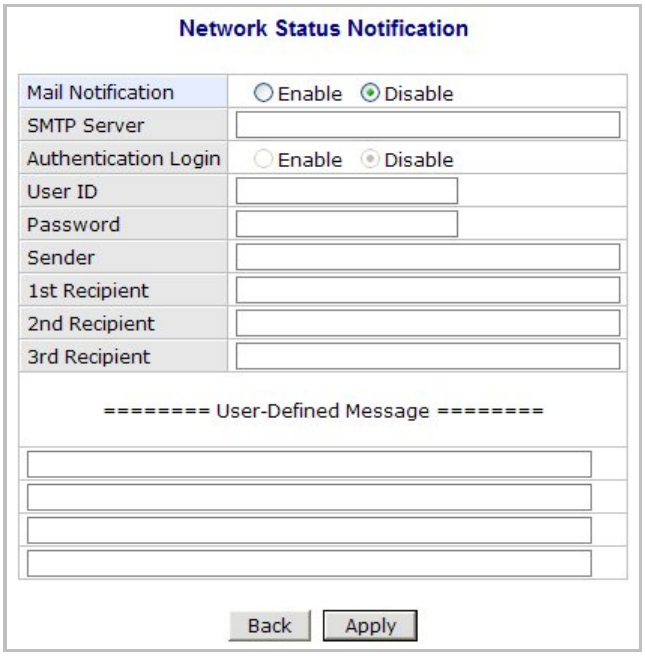
- When it is set to PPP Client on WAN-Modem menu, and the DNC server has been connected to the network with ISP or PPP server.

To configure, click **Network Status Notify** on **Network Configuration**.



Network Status Notification window will be displayed. First, select **Enable** to use the feature. Then enter the address of the SMTP server which is needed for email service. If your SMTP server requires a user ID and a password for authentication, you will have to get them from ISP or network admin. Enter the ID and password.

In **Sender** field, enter your email address or other meaningful words that will show the message was sent from the DNC server as a notification. Now enter the email addresses of the recipients in the three **Recipient** fields, up to 3 persons. In the **User-Defined Message** box, you may want to put the message to explain why the message was sent. After finishing the setup, click **Apply** to save the setting.



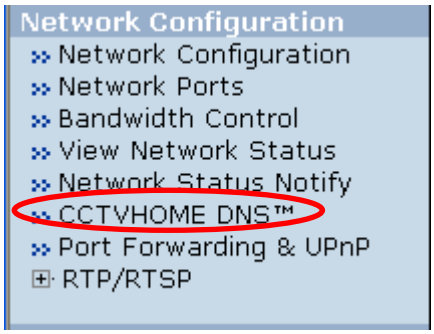
Mail Notification	**Enable**: Send email **Disable**: Do not send email
SMTP Server	SMTP Server address for email service
Authentication Login	**Enable**: user ID and password is required for SMTP server **Disable**: user ID and password not required
User ID	User ID for SMTP server
Password	Password for SMTP server
Sender	Email address of Sender
1st Recipient	Email Addresses of the Recipients (up to 3 persons)
2nd Recipient	

3rd Recipient	
User Defined Message	Message to be included in the Notification email

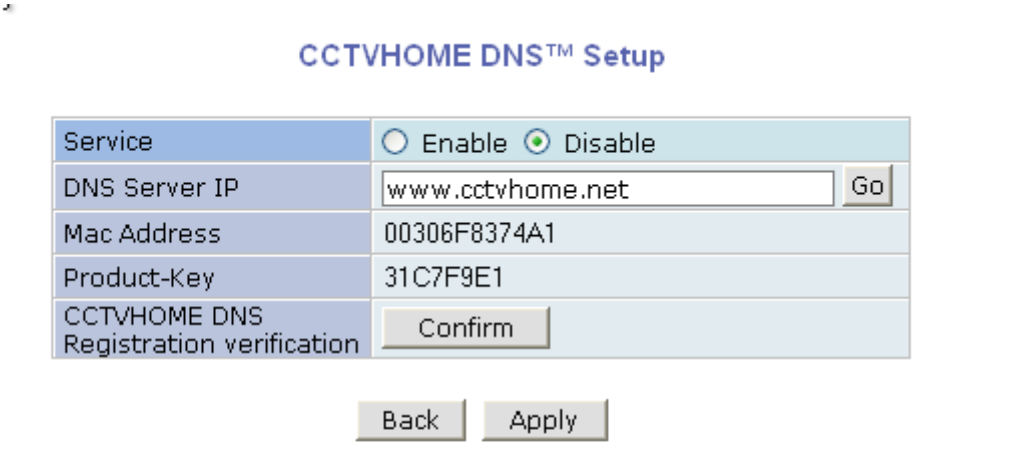
4.7. CCTVHOME DNS™

If a DNC® Server is operating in a dynamic IP environment, then CCTVHOME DNS™ service should be used in order to make a connection to it. Before configure the server, you first need to get a user account from CCTVHOME DNS™ (http://www.cctvhome.net), and register the MAC address and the product-Key of your DNC® Server.

To set up the usage of CCTVHOME DNS™ in the DNC® Server, click **CCTVHOME DNS™** on **Network Configuration** menu.



Select **Enable** on **Service** field, then enter the address of CCTVHOME DNS™ Server that your DNC server is registered in. (you can use www.cctvhome.net for the CCTVHOME DNS™ Server address) Now click **Apply** to save the setting.



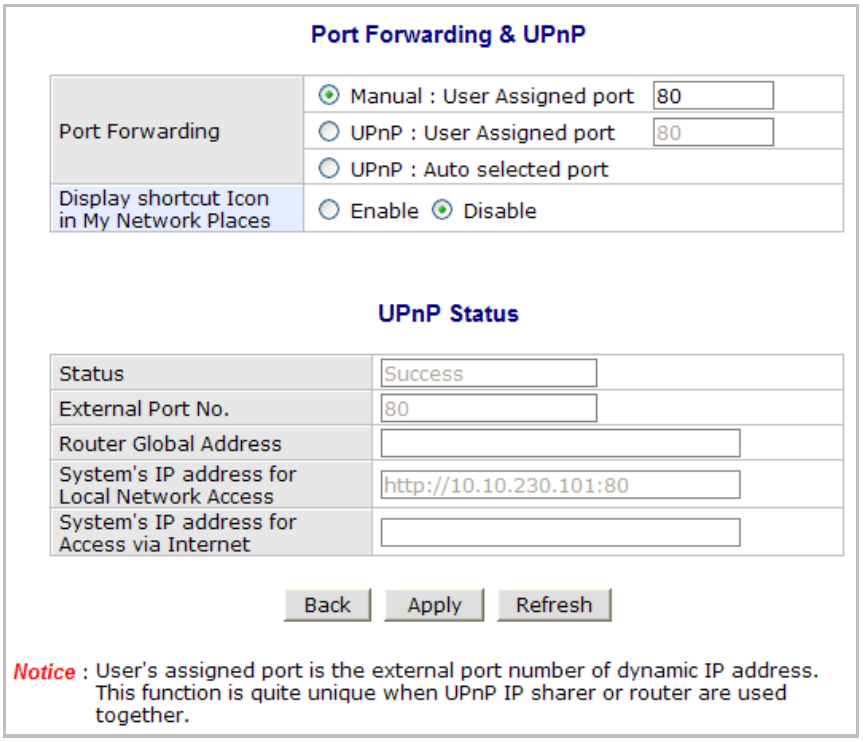
Notice : If you do not use public dynamic IP address for the remote access. please skip this step.
This is related with www.cctvhome.net
Different IP address or URL must follow the same protocol of www.ipcctvdns.com
If you click Confirm button, you can verify registered URL on CCTVHOME DNS.
If product is not registered on CCTVHOME DNS, you can not verify registered URL.

☞ *Refer to CCTVHOME DNS™ user's manual for further details of CCTVHOME DNS™ Configuration.*

✓ Click **Confirm** button to check if your server is successfully registered in CCTVHOME DNS™. You will find the URL address of your DNC server.

4.8. Port Forwarding & UPnP

UPnP (Universal Plug and Play) is a set of network protocols that enables discovering and configuring local devices automatically. In terms of functionality, UPnP is divided into CP and Device functions; Device function is for informing a network environment of its location as NVS, while CP is for requesting a router for Port Forwarding service. (The router is also another UPnP device present in the local network)


Port Forwarding & UPnP
Port Forwarding
Manual : User Assigned port 80
UPnP : User Assigned port 80
UPnP : Auto selected port
Display shortcut Icon in My Network Places
Enable Disable
UPnP Status
Status
Success
External Port No.
80
Router Global Address
System's IP address for Local Network Access
http://10.10.230.101:80
System's IP address for Access via Internet
Back
Apply
Refresh
Notice : User's assigned port is the external port number of dynamic IP address. This function is quite unique when UPnP IP sharer or router are used together.

In the picture shown above, "**Display shortcut Icon in My Network Places**" part in the upper table is for the **Device** function, and "**Port Forwarding**" part is for **CP** function.

Device function can be enabled regardless of the neighboring network devices (such as PC or routers). For Microsoft Windows, this function has been supported since XP version and CP function can be automatically enabled to use Port Forwarding service if the router supports UPnP device functionality.

In case of the router not following the standard or UPnP function unsupported, users have to access the router to manually configure Port Forwarding and register a port. You can select the manual mode by selecting **Manual: User Assigned Port**.

If the router supports UPnP Device function and you want to allocate a specific port for Port Forwarding function, you are to select **UPnP: User Assigned Port**. On the contrary, if you'd like to configure UPnP in a fully automatic manner, you can select **UPnP: Auto Selected Port**.

4.9. RTP/RTSP Setup

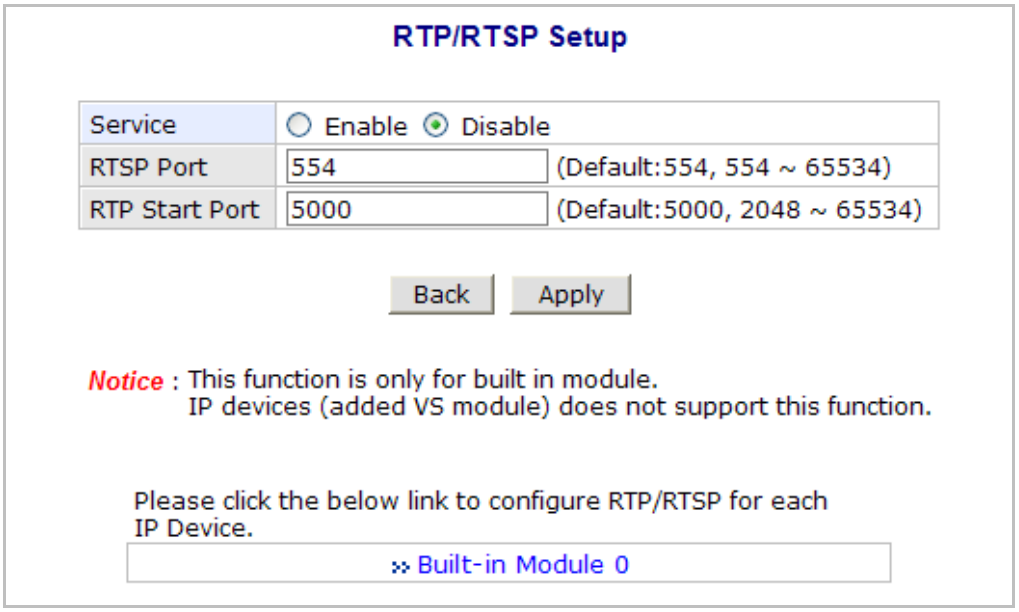
RTSP (Real-Time Streaming Protocol) is a protocol to transfer video and audio stream over the network. Any application supporting Standard RTSP can be used for DNC server. Quick Time Player or VLC program can be used for this, but it may not be supported in the environment within firewall. There are two types of usage, one for Unicast address condition and the other for Multicast address condition.

Unicast Address:

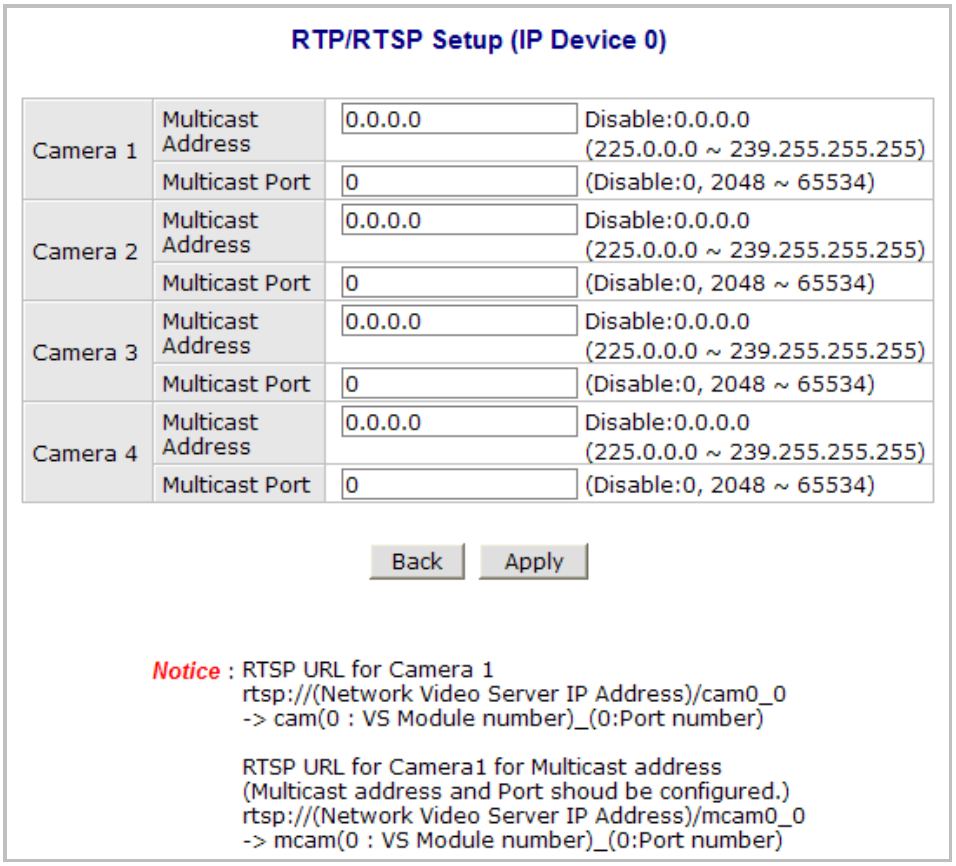
For Unicast address, use "rtsp://network video server ip address/cam0_0". If there are multiple channels, use cam0_x, x (0~3) with each number applied. If there are multiple modules, use camx_0 x (0 ~ 3) with each module number applied.

Multicast Address:

For Multicast address, use "rtsp://network video server ip address/mcam0_0". If there are multiple channels, use mcam0_x, x (0~3) with each channel number applied. If there are multiple modules, use mcamx_0 x (0 ~ 3) with each module number applied.



Service	**Enable**: Start RTSP service **Disable**: Stop RTSP service
RTSP Port	In normal case, use default port number 554 to connect to RTSP service. If not using port 554, enter the port number you want to use. e.g.) port number 445==> rtsp:// network video server ip address:445/cam0_0
RTP Start Port	The starting number of the port for video transfer. Each time video transfer connection is made, the port number also increases.



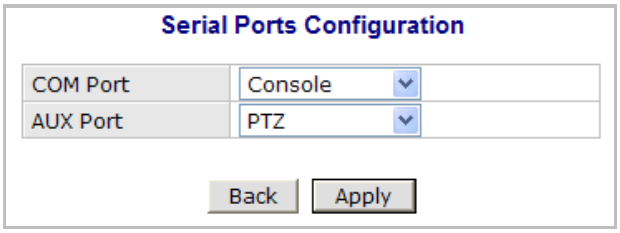
Multicast Address	Address for multicast video transfer The multicast address 0.0.0.0 is for stopping multicast.
Multicast Port	Port number for viewing the video with a multicast address

5. Device Configuration

You set up the connection between DNC® Server and the camera in this part of configuration. That includes Video data, external devices, Input / Output, Alarm control, and etc.

5.1. Serial Ports

There are two serial ports configurable in the system, COM and AUX. COM port is primarily used for console, and AUX is for PTZ control, but they both can be used for other purposes when necessary.



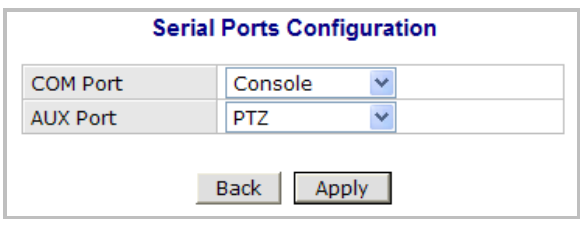
Please click below link to configure more details.

» Console Mode	When COM port is connected to console. (Baud Rate : 115200)
» Modem Mode	When COM or AUX port is connected to modem. (Baud Rate : 115000)
» Serial Input Mode	When COM or AUX port is connected to serial input device.
» Serial Output Mode	When COM or AUX port is connected to serial output device.
» Transparent Mode	When COM or AUX port is connected to UART device.
» PTZ Mode	When COM or AUX port is connected to PTZ devices.

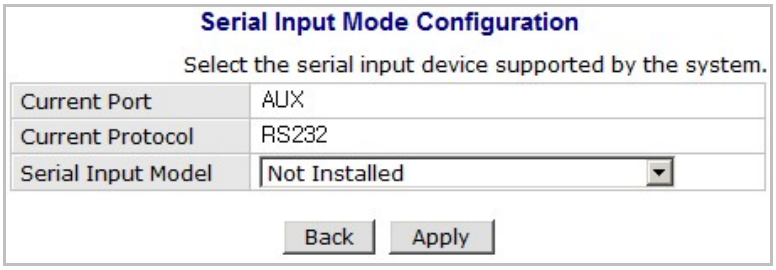
5.1.1. Serial Input Mode

When serial ports are in **Serial Input Mode**, DNC® Server can be triggered by the external sensors to send images from the camera by email, or FTP. It can also activate **Alarm Output** by input from sensors inputs. For example in a real life, if a dam's water level comes to a pre-defined value, the server can send the images of the dam's water level meter from cameras. Another example is, when a car running on highway exceed the speed limit, it can send the picture of the car.

To configure, click **Serial Ports** on Device Configuration. In **COM Port** or **AUX Port**, select **Serial Input** and click **Apply** button to apply the change. The system will reboot then.



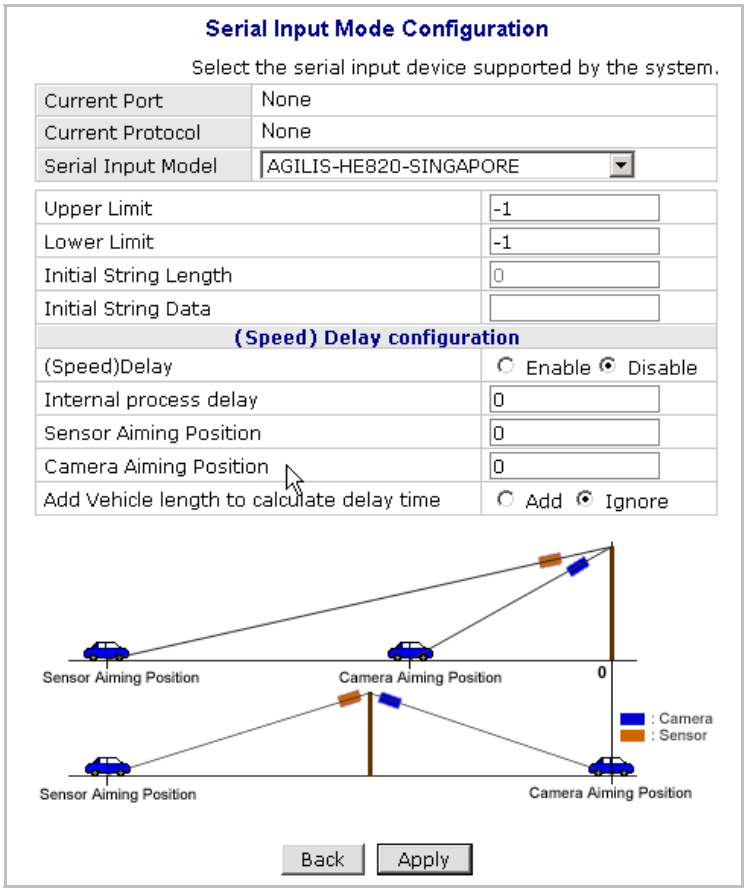
After rebooting is done, open the **Serial Ports** window in **Device Configuration** menu again. Select the **Serial Input Mode**, then the **Serial Input Mode Configuration** windows will be displayed as shown below.



- Current Port: This shows the name of the port currently configured.
- Current Protocol: This shows the protocol being used. (only RS-232 can be displayed)
- Serial Input Model: You can select the sensor's model number to use for Serial Input

The following example is when a speed sensor, AGILIS-HE820-SINGAPORE, is selected.

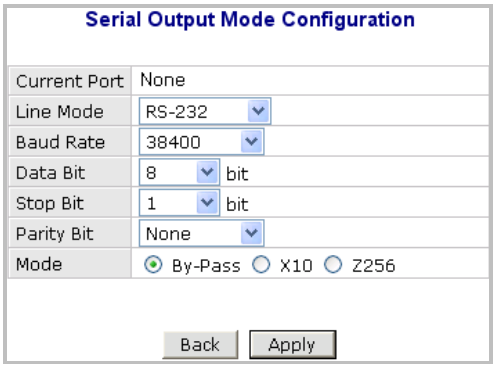
> ☞ *If additional sensors need to be added, it will require installation of the device drivers.*



- Upper Limit: The highest value in the range to assign
- Lower Limit: The lowest value in the range to assign
- Initial String Length: The length of initial string from sensor
- Initial String Data: The initial string from sensor
- (Speed) Delay: select **Enable** if sensor input needs delay
- Internal process delay: The amount of delay for sensor input
- Sensor Aiming Position: The position for sensor to aim
- Camera Aiming Position: The position for camera to aim
- Add Vehicle length to calculate delay time: The length of vehicle for applying delay time

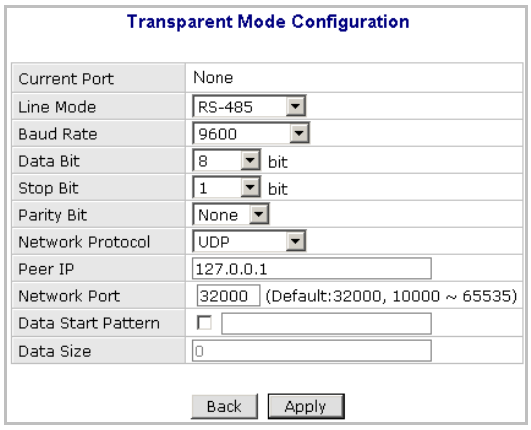
5.1.2. Serial Output Mode

Using Serial Output Mode, you can send UART device commands to DNC® Server in order to control PTZ devices, Multiplexer, Access control box, X10 Protocol, z256 protocol by RS-232 or RS-485/422 communication. In the picture below, serial output mode can be selected among By-Pass, X10, or Z256.



5.1.3. Transparent Mode

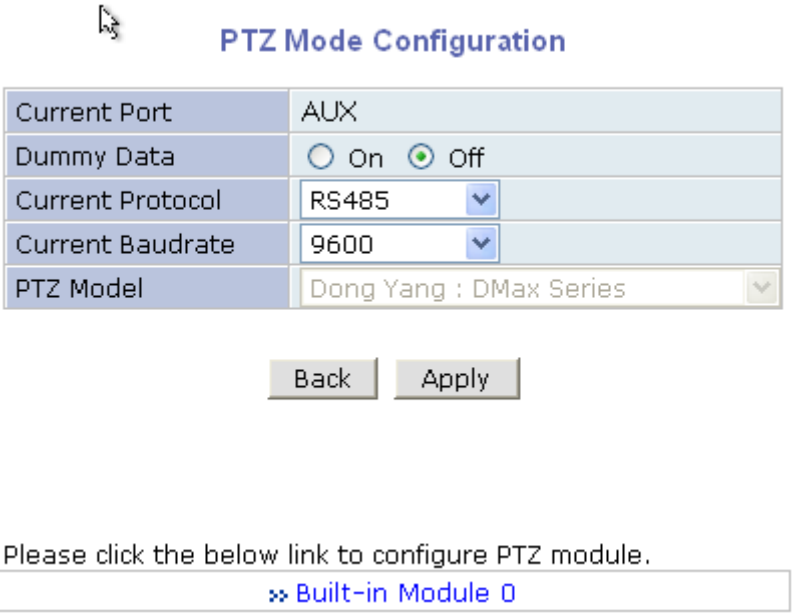
When there are two DNC Servers present on the network, they can act like a transparent interface between two different UART devices so that the communication between the UART devices can be made transparently without a flaw.



- Line Mode: The type of communication protocol
- Baud Rate: Data transfer rate
- Data Bit: The number of bits in data
- Stop Bit: The number of stop bit
- Parity Bit: Parity bit characteristic
- Network Protocol: The type of protocol used to send data
- Peer IP: IP address of other DNC server
- Network Port: Network port number of the server
- Data Start Pattern: Data start pattern (Not used if unchecked)
- Data Size: Data size in single transfer (Not used if unchecked)

5.1.4. PTZ Mode

With the PTZ camera's RS-485 cable wired to DNC® Server's COM or AUX port, select the proper PTZ model in **PTZ Mode Configuration** screen, then click **Apply** button to save the change.

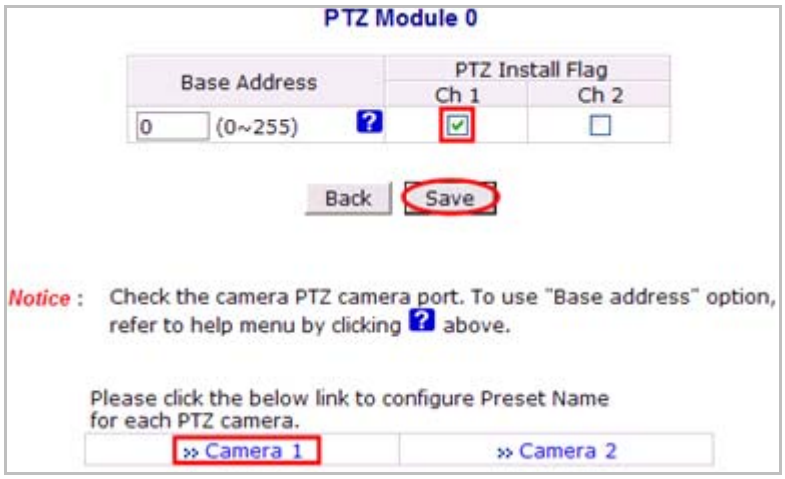


> *Before purchasing receivers or PTZ cameras, please contact Dongyang Unitech or distributor to find out if the product's protocol is supported by DNC server.*
>
> *When a PTZ model is selected from the list, Current Protocol and Current Baud rate will be set to the default values. You can change them if required.*
>
> *The table below shows the PTZ protocols supported by DNC. (Currently 43 types of PTZ models are supported and subject to change in the future.)*

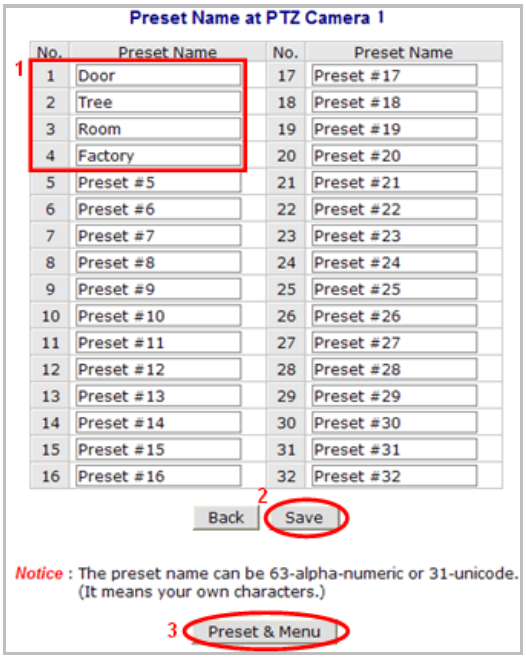
Dong Yang : DMax Series	Dongyang Unitech Cameras
Pelco-D : Spectra Dome	RNK : RNK-DOME
Pelco-P : Spectra Dome	ERNITEC : BDR-510
Seyeon Tech : SRX-500/SPT-102	Inter-M : VSD-640/625L
Seyeon Tech : FSD-230/270	KODICOM : KRE-301
Seyeon Tech : FSD-301	FINE : CRR-1600I
ELMO : ELDOME	Dongyang : DY-XXXX
SANTEC : Santec Dome	Bosch : Auto Dome
Honeywell : HSDN-230/251(H)	Sungjin : SJ2000/3000RX
Honeywell : HSDN-251(P)	Honeywell : HRX-2000
SAMSUNG : SCC641/643A	Inter-M : VRX-2201
SAMSUNG : SCC641/643A(RS422)	LG : Speed Dome
SAMSUNG : MRX-1000	Lilin PIH-7000 Dome
VICON : V-1311RB	Yujin YRX-5000S(Pelco-D)
VICON : Surveyor-1000/2000	INTPLUS : Pelco-P PTZ 1
SAMSUNG Techwin : SPD1600	VICON : V-1311RB-600
SAMSUNG Techwin : SRX-100B	Pelco-D : SK-D106
SAMSUNG Techwin : SRX-100R	Pelco-D : YuJin

American Dynamics : DELTA DOME	Pelco-D-AUX : HUVIRON
KALATEL : CYBER DOME(KTA-xxxx)	Pelco-P-AUX : ONE KING
Panasonic : WV-CS854	Pelco-D-AUX : Probe
SONY : EVI-D30	Honeywell : HSDN-P 251(H)
CANON : VC-C4	

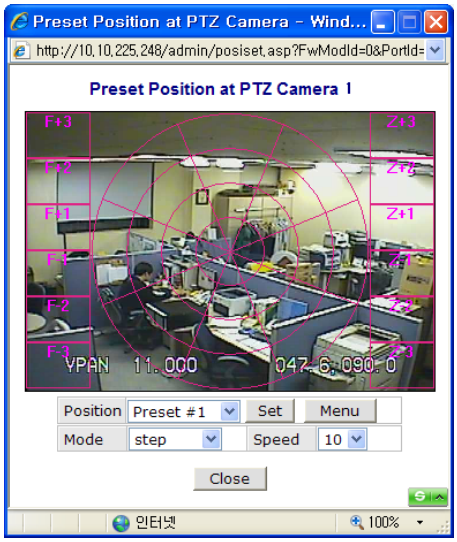
1. After selecting the proper PTZ model, click **Module 0** to activate the camera channel.



2. Base Address should be matched to the address of the PTZ camera or the receiver used here. (Base Address = PTZ Camera's Base Address – 1). For example, if PTZ camera's address is 1, then the base address becomes 0. You can find out the PTZ camera's address from its user's manual.
3. After put a checkmark on the channel that is connected to PTZ camera or receiver, click **Save** button to apply the change. The picture above is the example of PTZ camera wired to **Channel 1** only.
4. If the PTZ camera or receiver has a Preset function, click **Camera 1** to configure the Preset Name and the camera location. With Preset function, you can move the camera directly to previously configured position promptly.


Preset Name at PTZ Camera 1
No. Preset Name No. Preset Name
1 Door 17 Preset #17
2 Tree 18 Preset #18
3 Room 19 Preset #19
4 Factory 20 Preset #20
5 Preset #5 21 Preset #21
6 Preset #6 22 Preset #22
7 Preset #7 23 Preset #23
8 Preset #8 24 Preset #24
9 Preset #9 25 Preset #25
10 Preset #10 26 Preset #26
11 Preset #11 27 Preset #27
12 Preset #12 28 Preset #28
13 Preset #13 29 Preset #29
14 Preset #14 30 Preset #30
15 Preset #15 31 Preset #31
16 Preset #16 32 Preset #32
1
2
Back
Save
Notice : The preset name can be 63-alpha-numeric or 31-unicode.
(It means your own characters.)
3
Preset & Menu

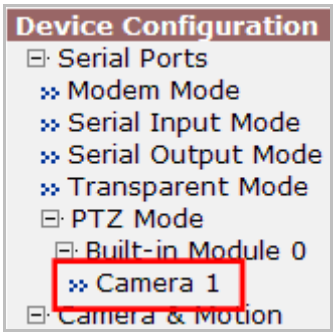
5. Up to 32 different Preset can be configured and saved. The picture above shows the example of four different Presets made. After configuring Preset is done, click **Save** button to take effect.
6. To preset the camera position, click **Preset & Menu**, then the video monitoring screen will appear as shown below. Control the camera's position as you desire, and click **Set** button.
7. After all the Preset items are set up, click **Close** button to exit the configuration.



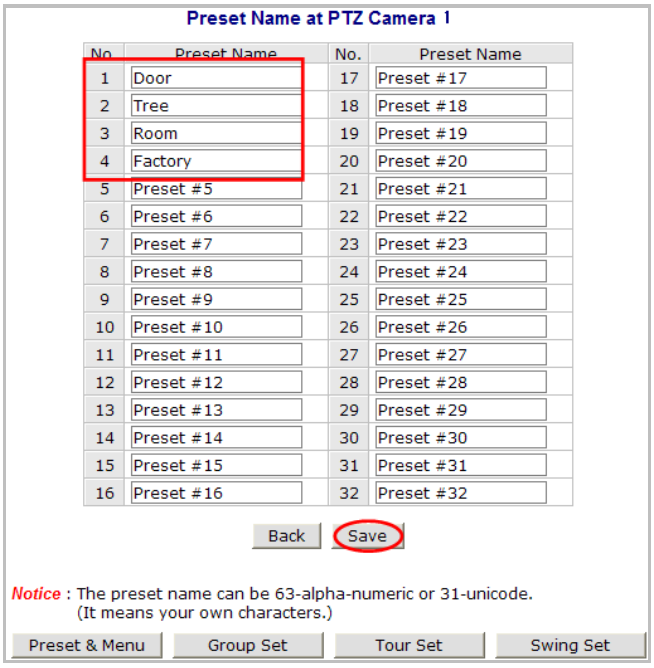
5.1.5. PTZ Mode

These DNC Servers are Speed Dome models, which are all-in-one type network cameras and don't have PTZ configuration part. It's possible to set Preset, Swing, Group, and Tour functionalities in those servers and further detailed parts can be configured by use of OSD. Below is the steps for configuration.

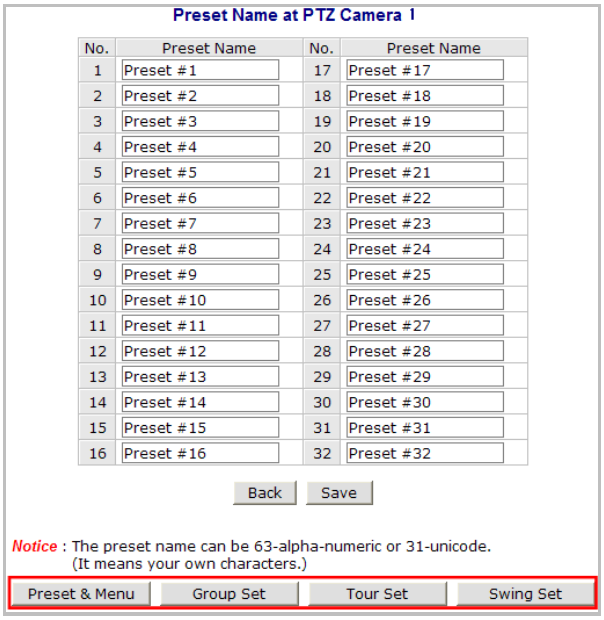
1. Click **Devices Configuration > Serial Ports > PTZ Mode > Built-in Module 0 > Camera 1**



2. Enter the Preset names as required. You can make up to 32 Preset names. Below is the example of entering 4 different room names.


Preset Name at PTZ Camera 1
No. Preset Name No. Preset Name
1 Door 17 Preset #17
2 Tree 18 Preset #18
3 Room 19 Preset #19
4 Factory 20 Preset #20
5 Preset #5 21 Preset #21
6 Preset #6 22 Preset #22
7 Preset #7 23 Preset #23
8 Preset #8 24 Preset #24
9 Preset #9 25 Preset #25
10 Preset #10 26 Preset #26
11 Preset #11 27 Preset #27
12 Preset #12 28 Preset #28
13 Preset #13 29 Preset #29
14 Preset #14 30 Preset #30
15 Preset #15 31 Preset #31
16 Preset #16 32 Preset #32
Back
Save
Notice : The preset name can be 63-alpha-numeric or 31-unicode.
(It means your own characters.)
Preset & Menu
Group Set
Tour Set
Swing Set

3. Use the buttons to configure Preset, OSD, Swing, Group, and Tour. (Swing, Group, and Tour)


Preset Name at PTZ Camera 1
No. Preset Name No. Preset Name
1 Preset #1 17 Preset #17
2 Preset #2 18 Preset #18
3 Preset #3 19 Preset #19
4 Preset #4 20 Preset #20
5 Preset #5 21 Preset #21
6 Preset #6 22 Preset #22
7 Preset #7 23 Preset #23
8 Preset #8 24 Preset #24
9 Preset #9 25 Preset #25
10 Preset #10 26 Preset #26
11 Preset #11 27 Preset #27
12 Preset #12 28 Preset #28
13 Preset #13 29 Preset #29
14 Preset #14 30 Preset #30
15 Preset #15 31 Preset #31
16 Preset #16 32 Preset #32
Back
Save
Notice : The preset name can be 63-alpha-numeric or 31-unicode.
(It means your own characters.)
Preset & Menu
Group Set
Tour Set
Swing Set

- **Preset & Menu**: You can pre-define the spot you want to see. Up to 32 settings can be stored. Click Menu button to configure the camera's attributes.
- **Swing**: Repeat moving between two positions in certain period.
- **Group**: Each group moves around up to 6 pre-defined positions in certain period.
- **Tour**: Move around up to 6 different groups in certain period.

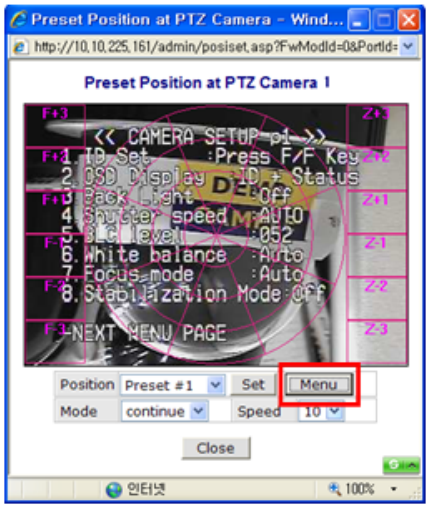
Preset & Menu

Click on the button and it will display the video window as shown below. Use PTZ to control the camera to show the desired spot. Select the Preset number you'd like to assign to it. Click **Set** button to save the preset values in the Preset number.

- **Mode**: When **Step** is selected, it will move as much as pre-defined distance. When **Continuous** is selected, it will keep moving as long as the button is being pressed.
- **Speed**: In **Step** mode, different Speed value is different Step size. In Continuous mode, it is different moving speed.

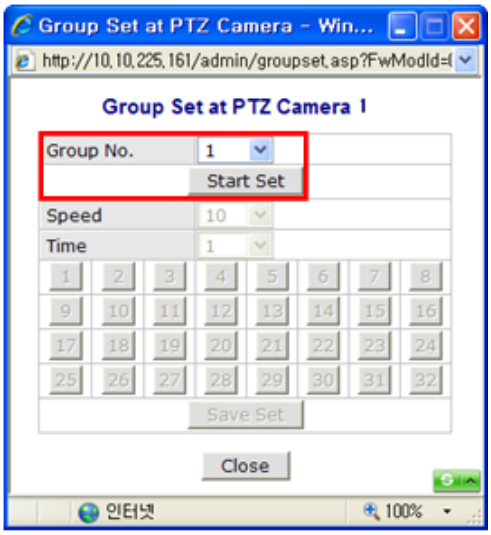
Click on **Menu** button, and it will display an OSD window for adjusting camera attributes. OSD

setting can be made by Up, Down, Left, Right arrow keys. After setting is finished, click **Menu** button.



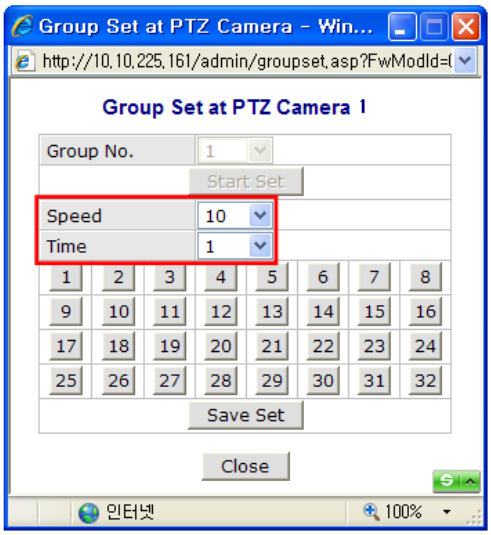
Group Set

Click the button and it will display the Group setting window as shown below. Select a group number as you'd like, and click **Start Set** button. Preset numbers from 1 to 32 will become active for the group.

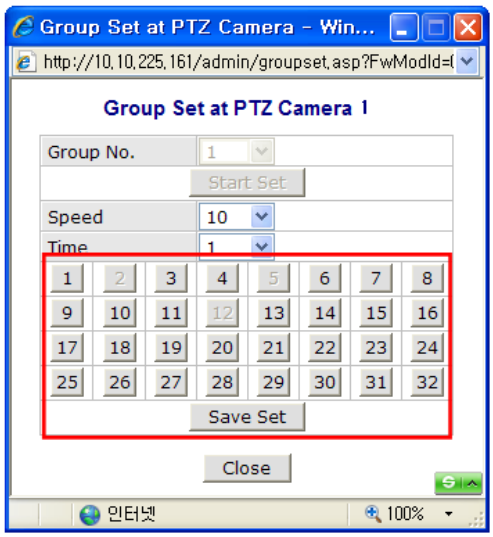


Speed: How fast it will move between Preset items when Group function is executed.

Time: How long it will stay at the Preset. Each Group can have up to 6 Presets.

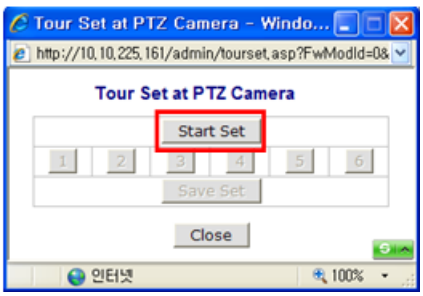


After Preset is configured, click **Save Set** button. Group setup window will be displayed. You can configure up to 6 groups. The usage of Group can be controlled at PTZ Control window in Smart Viewer.

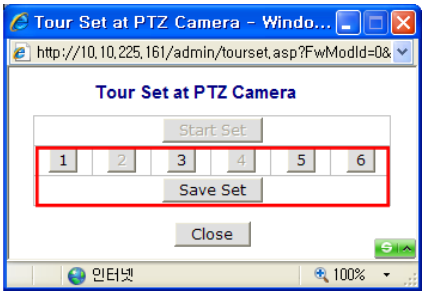


Tour Set

Click the button and it will display the Tour Set window. Up to 6 groups can be combined to run in Tour mode.

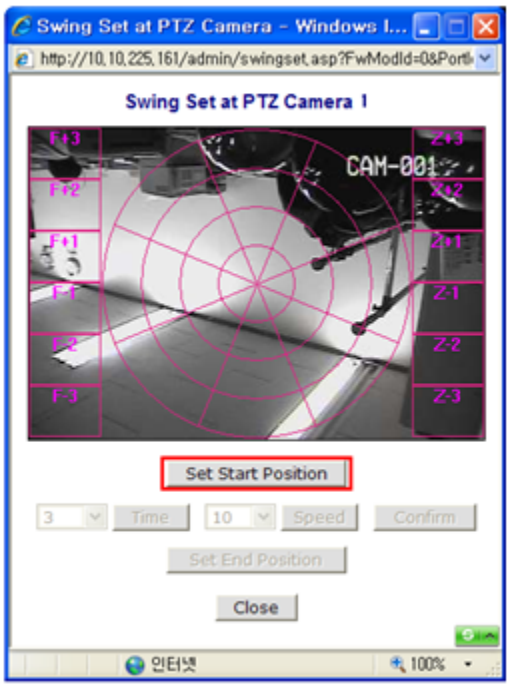


Select a Group number as desired, then click **Save Set** button to finish setup. The usage of Tour can be controlled at PTZ Control window in Smart Viewer.

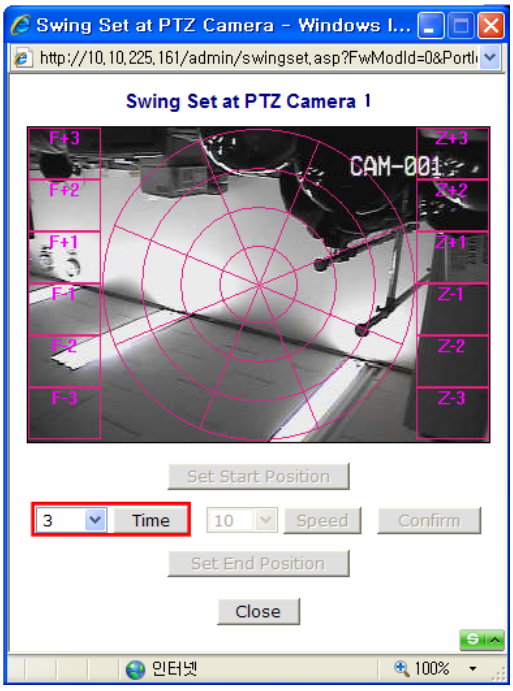


Swing Set

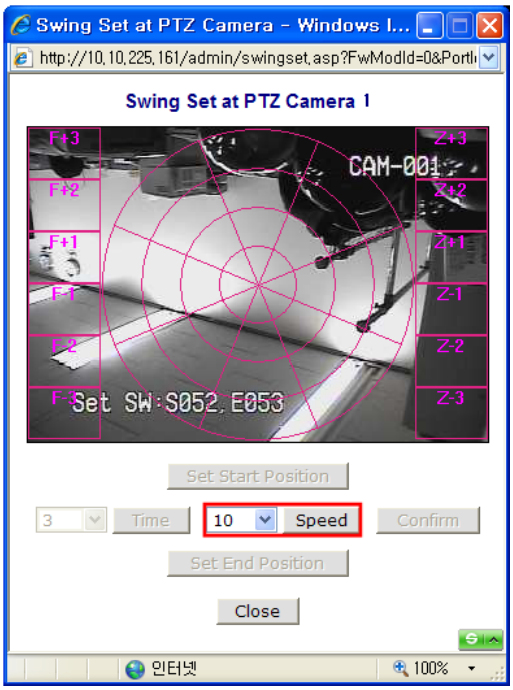
Click the button and it will display the Swing Set window. Use PTZ to direct the camera to put the desired spot on the center of the camera viewing area, then click **Set Start Position** button.



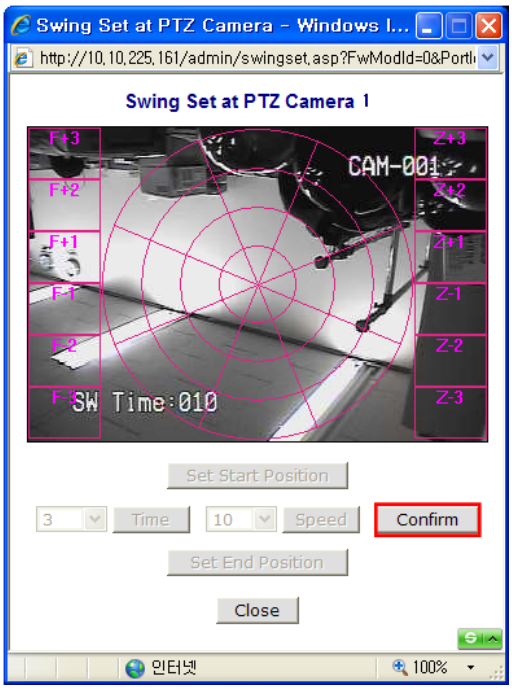
Select the start position and the waiting period, then click **Time** button.



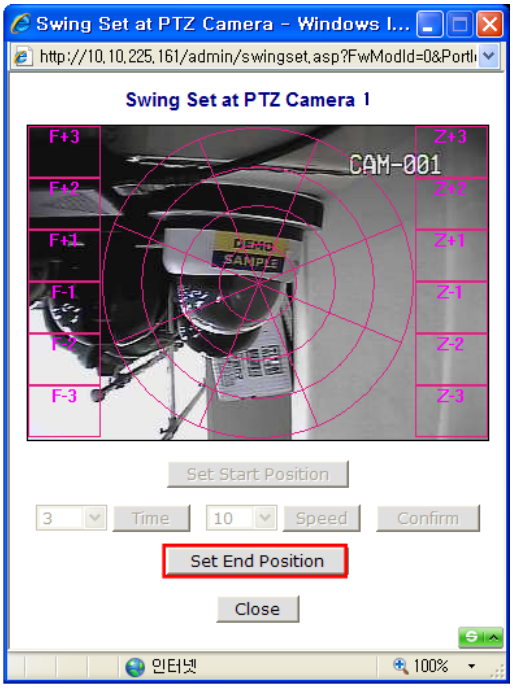
Select the moving speed between the starting position and the ending position, then click **Speed** button.



Click **Confirm** button.



Now use PTZ to move to the ending position, and then click **Set End Position**.



The control of Swing function can be made at PTZ Control window in Smart Viewer.

5.2. Camera & Motion

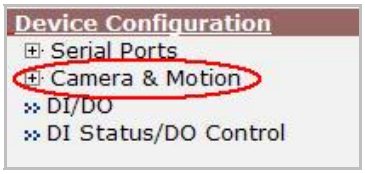
You are to configure what data will be combined with video data, and set up specific operating environment for each channel. (A Channel means a camera which is directly wired to DNC® Server Cameras or remotely connected over the network)

5.2.1. Camera & Motion

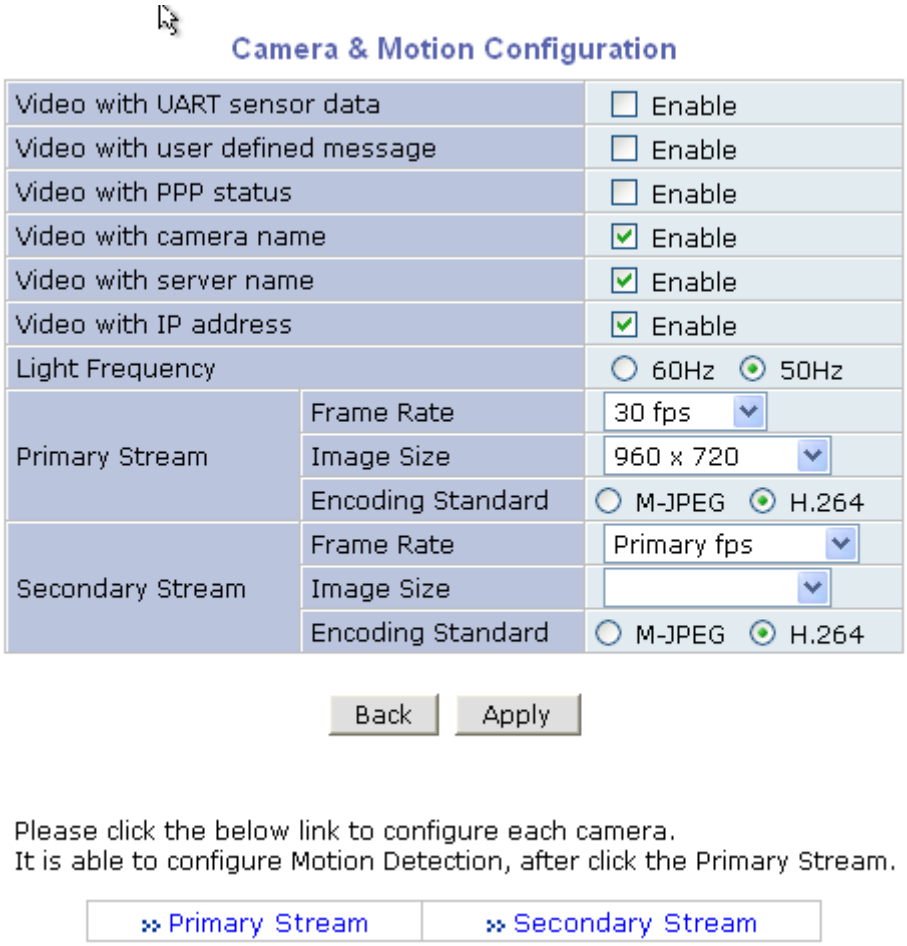
This menu is used to set up the selection of video format, data added to video data, encoding speed, audio control, image resolution, video quality, motion detection, and etc.

> *For Dual Stream products, the most of parameters are dependent on primary stream value.*

1. Click **Device Camera & Motion** on Device Configuration menu.



2. Configure the video data format and other information to be contained in it.



- Default Video Format: Video transmitting format of the camera attached to DNC Server. Select from NTSC or PAL.
- Video with UART sensor Data: If Enabled, video data will contain UART sensor data from COM port.
- Video with user defined message: If Enabled, video data will contain the user-defined data. (Reserved Field)

- Video with PPP status: If Enabled, video data will contain PPP connection status.
- Video with camera name: If Enabled, video data will contain the camera name.
- Video with server name: If Enabled, video data will contain the server name that you defined.
- Video with IP address: If Enabled, video data will contain the IP address of the video server.
- Light Frequency: Used for Flickering Rejection. Select the electric power frequency used in the region, either 50 or 60Hz.
- Frame Rate: For Primary Stream, this is the number of frames compressed in every second. You can control the network traffic with this parameter. For Secondary Stream, it can be set to manner of 1/2, 1/4, 1/8... of the primary stream.
- Image Size: Select the resolution of each channel's video
- Encoding Standard: Select the compression method of each video, either M-JPEG or H.264 format. It is not allowed to set both channels to M-JPEG.

Below is the table of images sizes.

Video Format	SXGA	D1	CIF	QCIF
NTSC	-	704 x 480	352 x 240	160 x 112
PAL	-	704 x 576	352 x 288	160 x 144
VGA	-	640 x 480	320 x 240	160 x 112
1.3M Pixel	1280 x 1024	640 x 480	320 x 240	160 x 112

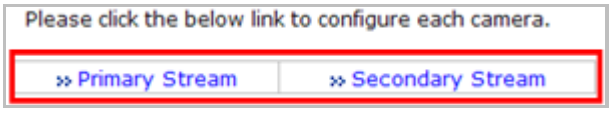
☞ *M-JPEG: This format requires much higher network bandwidth than H.264 compression. But because of its higher quality of still image, it is adequate for detailed reviewing of stored video.*

☞ *H.264: In this format, each frame data is related to other nearby frames. For this reason, it provides much higher compression ratio than M-JPEG and is adequate for video transfer. However, if network condition is not very good and having dropped frames in video data, the video quality can be relatively low. With DNC server, you can set the number of P-frames in the video which is independent still images between I-frames.*

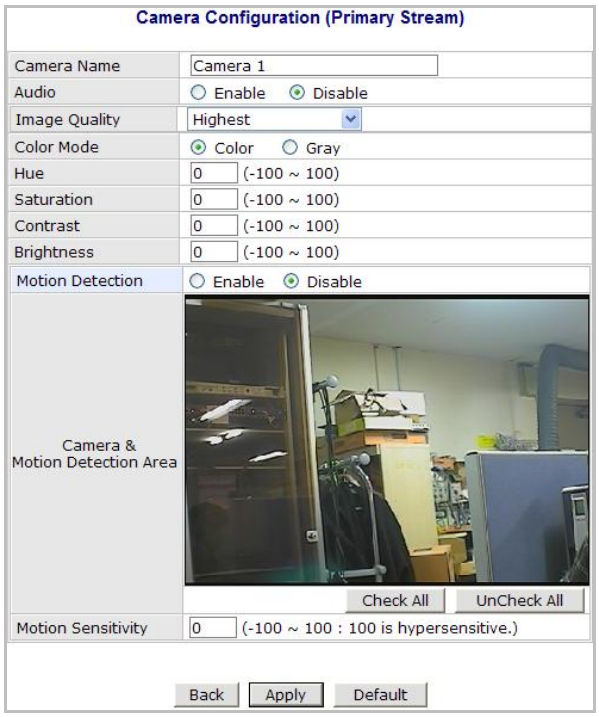
3. To save the setting, click **Apply** button.

Camera Configuration

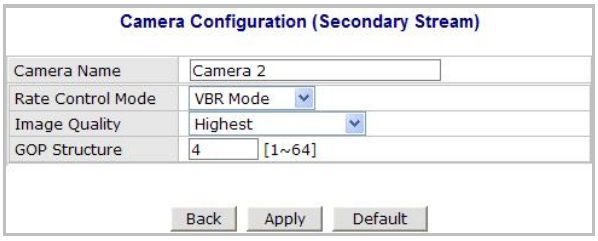
On the lower part of **Camera & Motion Configuration** menu, select a channel you want to configure.



In the example shown below, Primary Stream is set to M-JPEG, and Secondary Stream set to H.264 for compression format. Enter detailed parameters of the camera selected here.



Primary Stream (M-JPEG)



Secondary Stream (H.264)

- When the image sensor is VGA CMOS/CCD or 1.3M CMOS/CCD, there will be no Hue, Saturation, Contrast, or Brightness setting items shown. Only with NTSC or PAL will those parameters be configured.
- Camera Name: Enter the name of the channel in up to 21 alphanumeric or up to 10 Unicode characters.
- Audio: Select if Audio function is to be used (applies to Primary Stream only)

✓ DNC® Server provides 2-way audio streaming by combining microphone input with video data. Users can listen to the streamed audio on PC speakers.

- Image Quality Setup

MPEG-4 / H.264	Rate Control Mode: VBR (Variable Bit Rate) Video frames are encoded with selected image quality and GOP. Encoded frames have different data size from each other.	**Image Quality**: one of 6 quality levels (Low Compression / Highest / High Normal / Low / Lowest)
		GOP Structure: Distance between I-Frames. That is filled with P-frames.
	Rate Control Mode: CBR (Constant Bit Rate) Video frames are encoded with selected image quality and GOP. Encoded frames have the same data size as other frames. Due to the constant bit rate, it has better stable transmission performance.	**Bit Rate Control:** Total number of Bits encoded per second. The higher Bit Rate, the better image quality. Can be set between 32kbps and 2Mbps.
		GOP: Distance between I-Frames. That is filled with P-frames.
M-JPEG	-	**Image Quality:** one of 6 quality levels (Low Compression / Highest / High Normal / Low / Lowest)

Low Compression	Highest	High	Normal	Low	Lowest

✓ In Image quality level setup, selecting the left results in higher image quality, but requires higher

network bandwidth. Selecting the right requires lower network bandwidth, but gives decreased image quality.

- **Color Mode**: Select either Color or Gray (applicable to Primary Stream only)
- **Hue**: Set the color of image between -100 and 100 (applicable to Primary Stream only)
- **Saturation**: Set the intensity of the image between -100 and 100 (applicable to Primary Stream only)
- **Contrast**: Set the contrast of the image between -100 and 100 (applicable to Primary Stream only)
- **Brightness**: Set the brightness of the image between -100 and 100 (applicable to Primary Stream only)

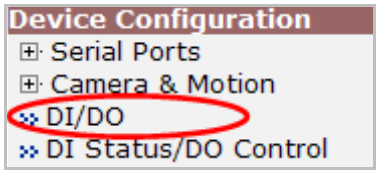
☞ *Color Mode, Hue, Saturation, Contrast, Brightness items are displayed only when the input video signal is NTSC or PAL.*

- **Motion Sensitivity**: This value sets how sensitively the motion detection works for the motion detection functionality. It can be between –100 and 100 while 100 is the most sensitive.
- **Motion Detection**: This decided whether the Motion Detection is to be used. If **Enable** is selected, you can set which part of the camera image the Motion Detection does functioning. This only works in Primary Stream mode.

After configuration is finished, click **Apply** button to save the setting. If you click **Default** button, the entire configuration will be reset to the original values.

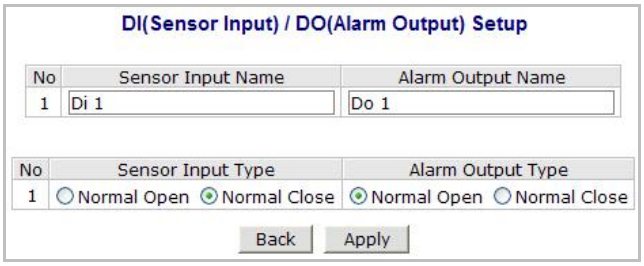
5.3. DI (Sensor Input) / DO (Alarm Output)

Select **DI/DO** from **Device Configuration** menu to configure Sensor Input and Alarm Output.



5.3.1. DI (Sensor Input) / DO (Alarm Output)

You can define **Sensor Input Name** and **Alarm Output Name** as you want, which should be up to 31 alphanumeric or up to 15 Unicode characters.



Sensor Input / Alarm Output Type

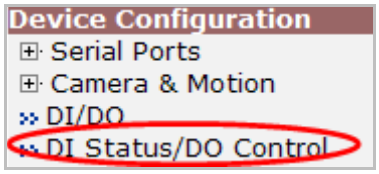
- **Normal Open Type**: Normal condition of this type is OPEN, and goes CLOSED when triggered by an event.

- **Normal Close Type**: Normal condition of this type is CLOSED, and goes OPEN when triggered by an event.

> *Make sure the type of the sensor and use it correctly to the type. If a Sensor Input is not used, it must be set to Normal Open Type to avoid a false input.*

5.4. DI Status/DO Control

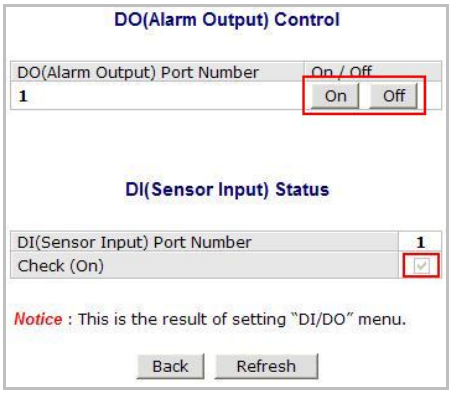
Select **DI Status/DO Control** on Device Configuration menu to configure the behavior of those Input and Output ports.



5.4.1. DI (Sensor Input) Status/DO (Alarm Output) Control

These DNC models have 1 Alarm output port and they act like a push button. When you click **On** button, it is essentially like the push button pressed. When you click **Off** button, it is like the push button not pressed.

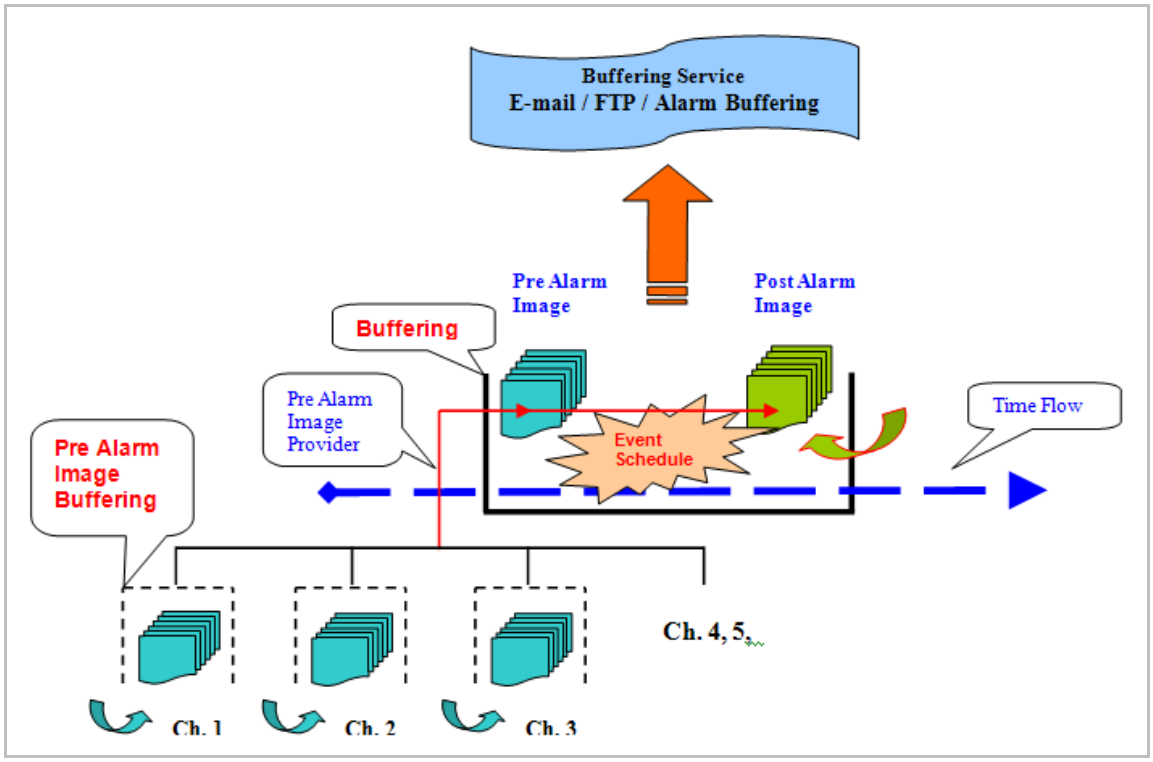
The status of Sensor Input can be monitored through DI. When the checkbox is marked, that means the Alarm is activated. When it's not marked, then the Alarm is not activated.



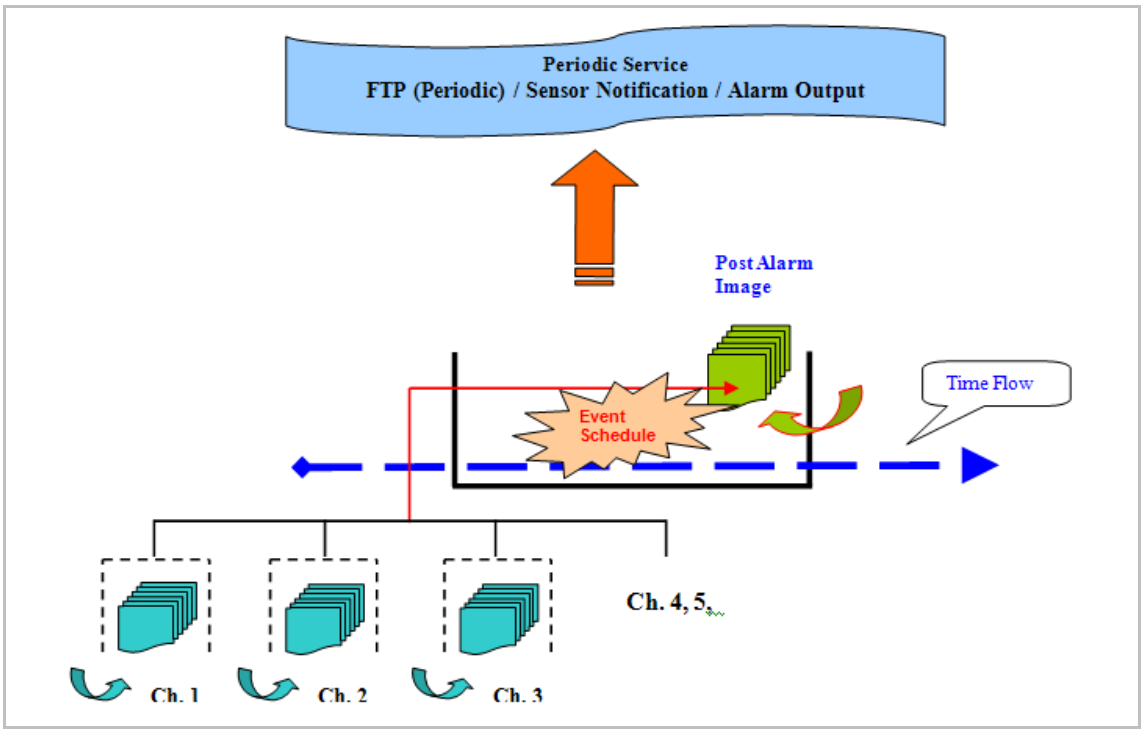
6. Advanced Configuration

DNC can be configured to start and stop certain pre-defined services by scheduling, event, or conditions. It also has the ISENS feature, which is a way of integrating DNC with CMS software. You can set up the advanced services in **Advanced Configuration** menu.

There are two types of advanced service, one is **Buffered Service** and the other is **Periodic Service**. In Buffering Service, a series of images continue to be stored in buffer memory of server for a certain period amount of time. When the server is triggered by an event or schedule, the images or alarm status right before and after the event/schedule are reported to you by email or buffered FTP services.

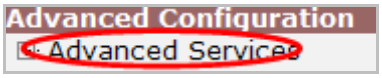


In Periodic Service, only the image, alarm/sensor status after an event/schedule is reported to you upon the server is triggered.



6.1. Advanced Services

Pre-Alarm buffer size and buffering speed can be defined here.



	Ch 1	Ch 2	Ch 3	Ch 4	Sum
Pre-Alarm Buffer Size	0 (frames)	0 (frames)	0 (frames)	0 (frames)	0

Pre-Alarm Buffer Size: You can set the buffer size which will store the images before event. The unit is in frame, and each channel can be set with different values. The total number of frames for Pre-Alarm Buffer and Post-Alarm Buffer is limited to 10 frames.

Pre-Alarm Speed	Select Spe	Select Spe	Select Spe	Select Spe

Pre-Alarm Speed: You can set the buffering speed. If it's set to **Fastest**, the server will store images as fast as it can. Each cannel can be set with different values.

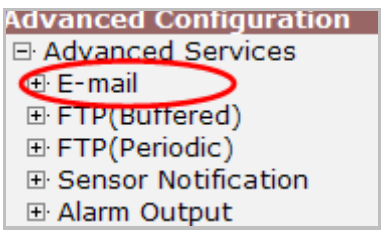
This configuration applies to E-mail and FTP (Buffered), and click **Save** button to apply the change.

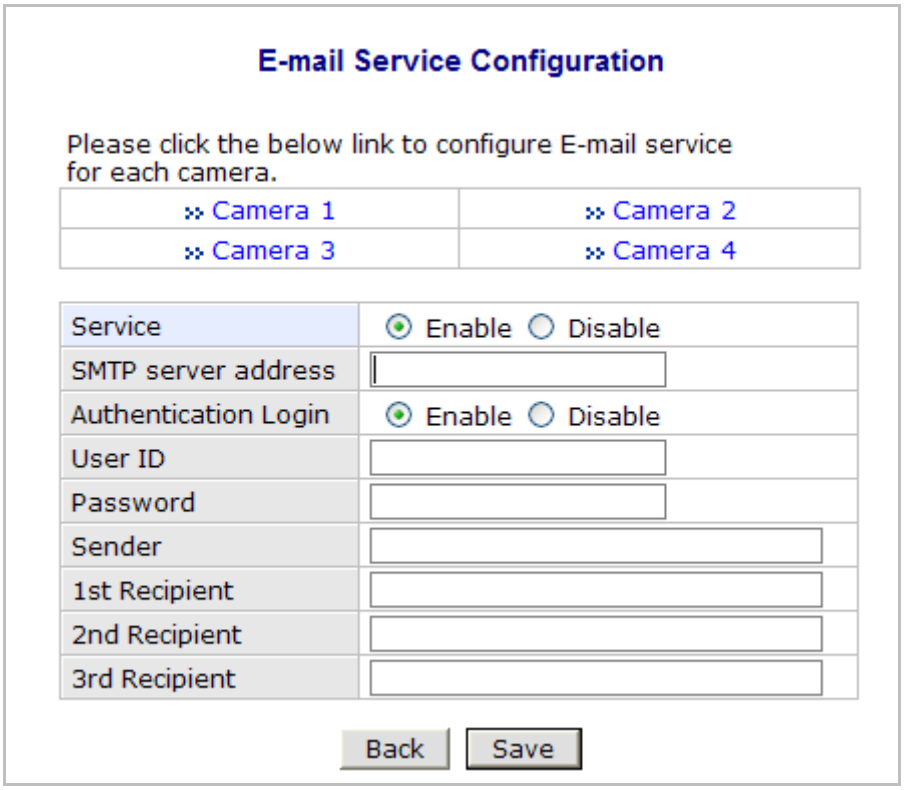
E-mail	Configuration of E-mail service to send pre-post alarm images.
FTP(Buffered)	Configuration of ftp service to send pre-post alarm images.
FTP(Periodic)	Configuration of ftp service to send recent images periodically according to service conditions.
Sensor Notification	Configuration to notify sensor status to predefined IP address.
Alarm Output	Configuration of alarm output duration according to service conditions.

Item	Description
E-mail	Set up Email Service configuration
FTP (Buffered)	Set up FTP (Buffered) Service configuration
FTP (Periodic)	Set up FTP (Periodic) Service configuration
Sensor Notification	Set up configuration such as CGI by notification
Alarm Output	Set up Alarm Output (DO Control) configuration

6.1.1. E-mail Service Configuration

Email configuration is set up here for Alarm in case any event occurs.



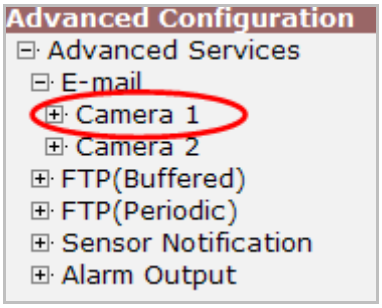


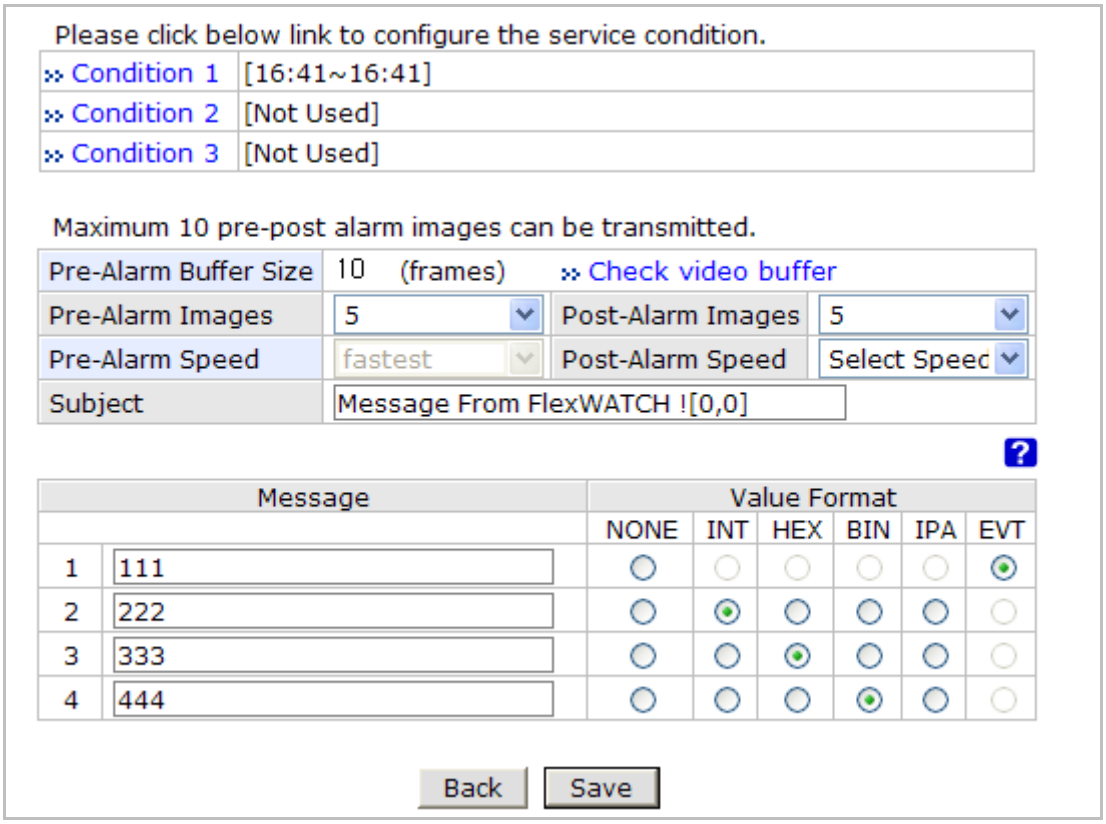
Item	Description
Camera 1 – Camera 4	Select a channel to be configured for email notification
Service	Select **Enable** in order to use this service
SMTP server address	Enter SMTP server's address for sending email.
Authentication Login	Select **Enable** if SMTP server requires ID and password
User ID	Enter User ID to log in to SMTP server
Password	Enter Password to log in to SMTP server
Sender	Enter email address of the sender
1st Recipient	Enter the email address of the first recipient
2nd Recipient	Enter the email address of the second recipient
3rd Recipient	Enter the email address of the third recipient

Click **Save** button to apply the change. If you don't want to change, click **Back** button.

E-mail Service Setup for Each Channel

For each channel, the following items can be configured for email service: Condition, Post-Alarm Buffer Size, and Post-Alarm speed. The content of text message and display style of DI value can be configured as well.



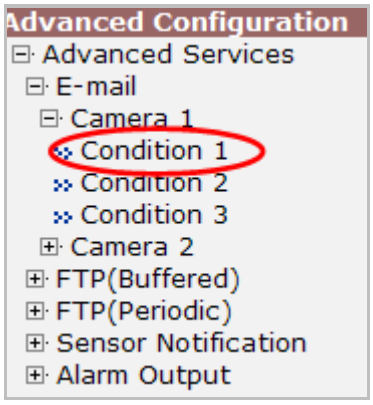


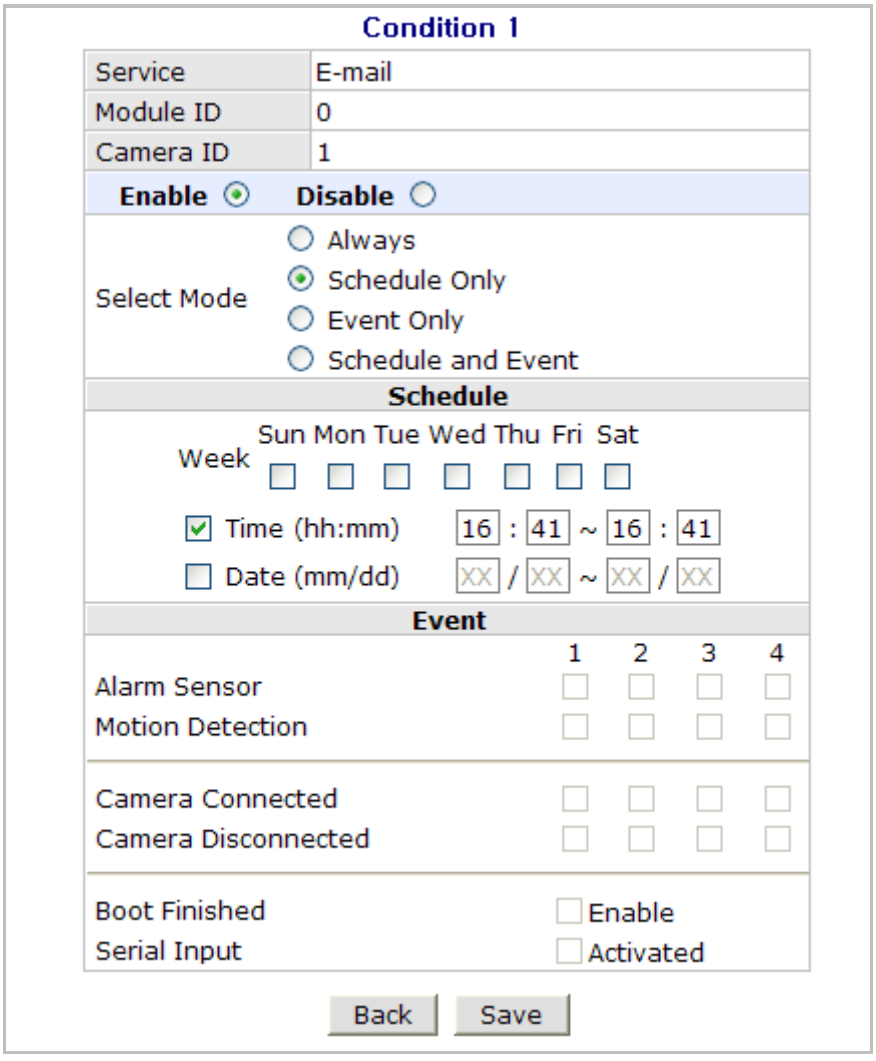
Item	Description
Condition 1 ~ Condition 3	Select a condition for Email service to be activated.
Pre-Alarm Buffer Size	The Buffer size assigned for Pre-Alarm.
Check Video buffer	Click this link to go to Advanced Services for buffer setup.
Pre-Alarm Images	The number of image frames to store before Alarm
Post-Alarm Images	The number of image frames to store after Alarm
Pre-Alarm Speed	This field shows the speed of Pre-Alarm. Configuration can be done in Advances Services page.
Post-Alarm Speed	Select the speed of Post-Alarm. **Fastest** is the highest value.
Subject	Subject of the E-mail message to send.
1	Content of the first line in the email message.
2	Content of the second line in the email message.
3	Content of the third line in the email message.
4	Content of the fourth line in the email message

Value Format	Select the format for the Event or DI data to email. NONE: Don't Send, INT: Decimal HEX: Hexadecimal, BIN: Binary IPA: IP Address, EVT: Name of Event

After finishing setup, click **Save** button to apply. If you don't want to change, click **Back** button.

Condition, Schedule & Event Configuration



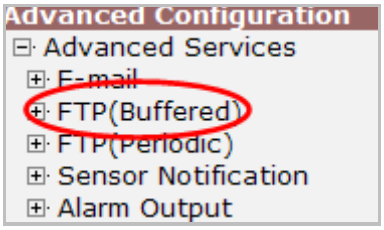


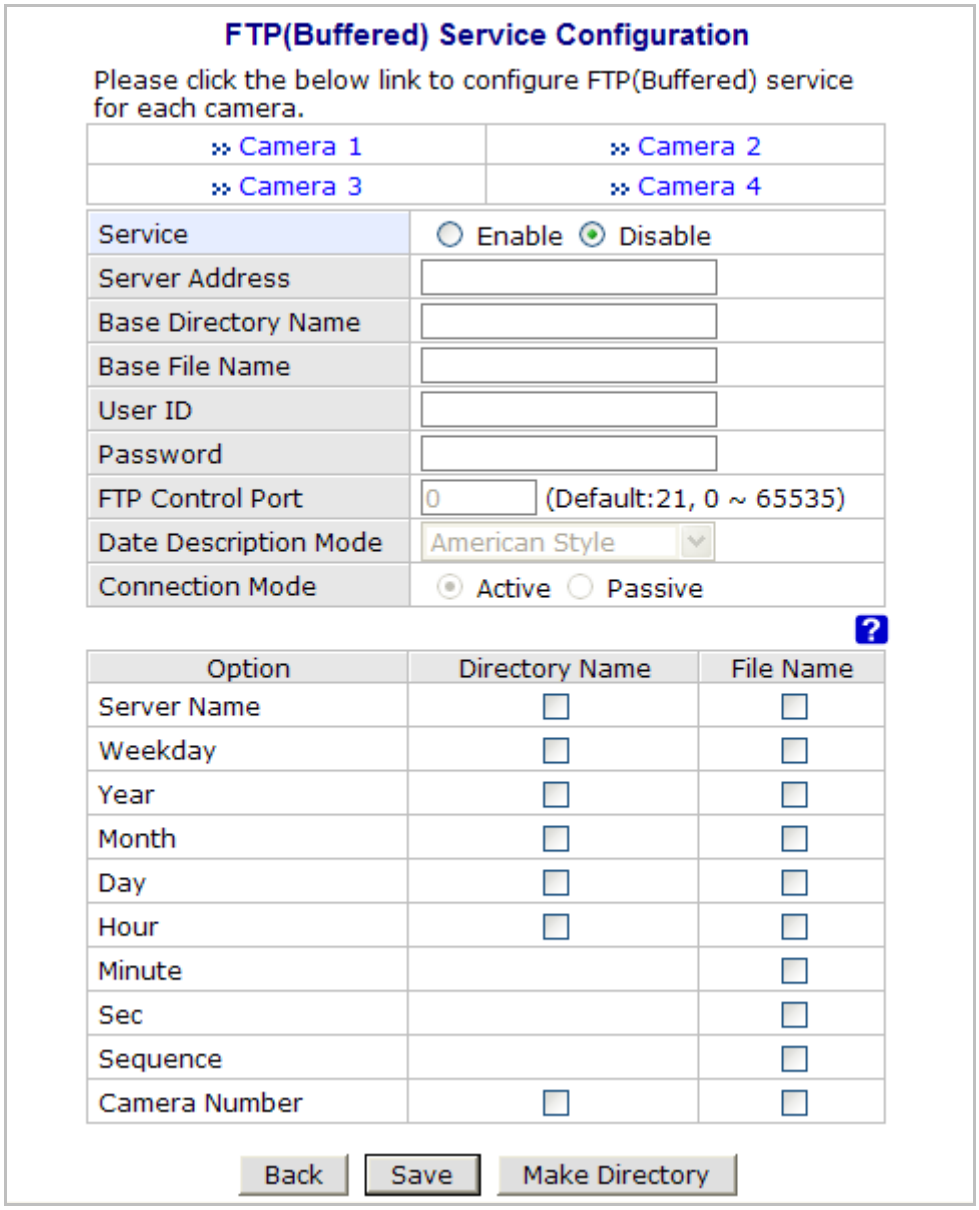
If you click on a **Condition** link, the **Advanced Service** windows is displayed as shown below. Alarm Service is activated only when the conditions in Advanced Services are met.

Item	Description
Service	This shows what service this condition is for.
Module ID	Module ID for current setup
Camera ID	Channel ID for current setup
Enable / Disable	Select **Enable** to use Condition, otherwise select **Disable**.
Always	This Condition applies all the time. (Schedule or Event is not usable)
Schedule Only	Use Week, Time, and Date in Condition parameter. If none of weekdays is set, it is activated every day.
Event Only	It is activated only when any of the following events occurs. (Sensor, Motion Detection, Camera Connection, Server Booting)

To save the setting, click **Save** button. If you want to cancel it, click **Back**.

6.1.2. FTP (Buffered) Service Configuration



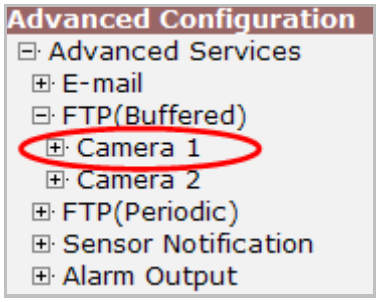


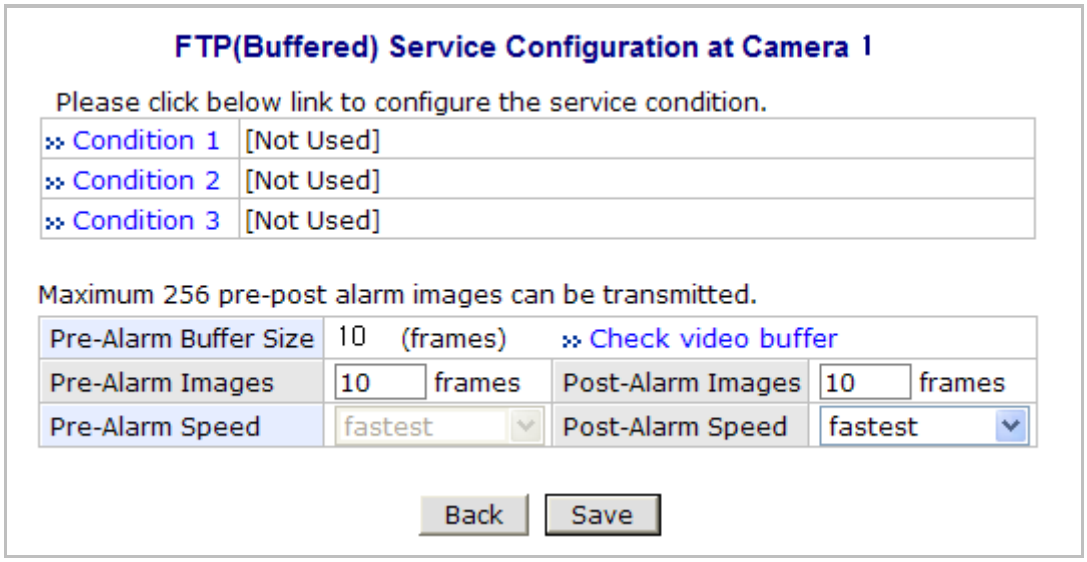
Item	Description
Camera 1 - Camera 4	Select which channel to set up for FTP (Buffered).
Service	Select **Enable** to use the FTP (Buffered) service. Otherwise select **Disable**.
Server Address	FTP Server Address.
Base Directory Name	The directory in FTP server where the data will be uploaded. (You should make the directory in the FTP server before using the service.)
Base File Name	The base file name of the data to be uploaded in FTP server.
User ID	Enter a User ID to log in to FTP server.
Password	Enter the Password for the user ID to log in to FTP server
FTP Control Port	Port number for FTP server (Normally 21 is used)
Date Description Mode	Select Date Display Style (e.g. 20090228)
Connection Mode	Select connection mode for FTP server

Server Name	If **Directory Name** is checked, new directory is created with server name. If **File Name** is checked, new file is created with server name.
Weekday	If **Directory Name** is checked, new directory name is created with weekday. If **File Name** is checked, new file name is created with weekday.
Month	If **Directory Name** is checked, new directory name is created with month. If **File Name** is checked, new file name is created with month.
Day	If **Directory Name** is checked, new directory name is created with day. If **File Name** is checked, new file name is created with day.
Hour	If **Directory Name** is checked, new directory name is created with hour. If **File Name** is checked, new file name is created with hour.
Minute	If checked, new file name is created with minute.
Sec	If checked, new file name is created with second.
Sequence	If checked, new files are created starting from 0, with increment of 1.
Camera Number	If **Directory Name** is checked, new directory is created with camera number. If **File Name** is checked, new file is created with camera number.

To create a directory with the options shown above, click **Make Directory** button. After finishing the configuration, click **Save** button to apply the change and continue to the next page. Clicking **Back** button will cancel the changes and go back to the previous page. (This service is available only in M-JPEG mode.)

FTP (Buffered) Service Configuration at Camera 1

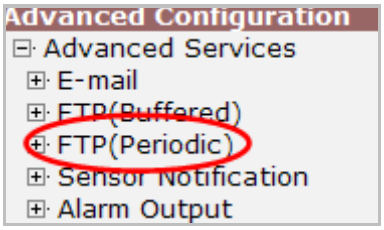


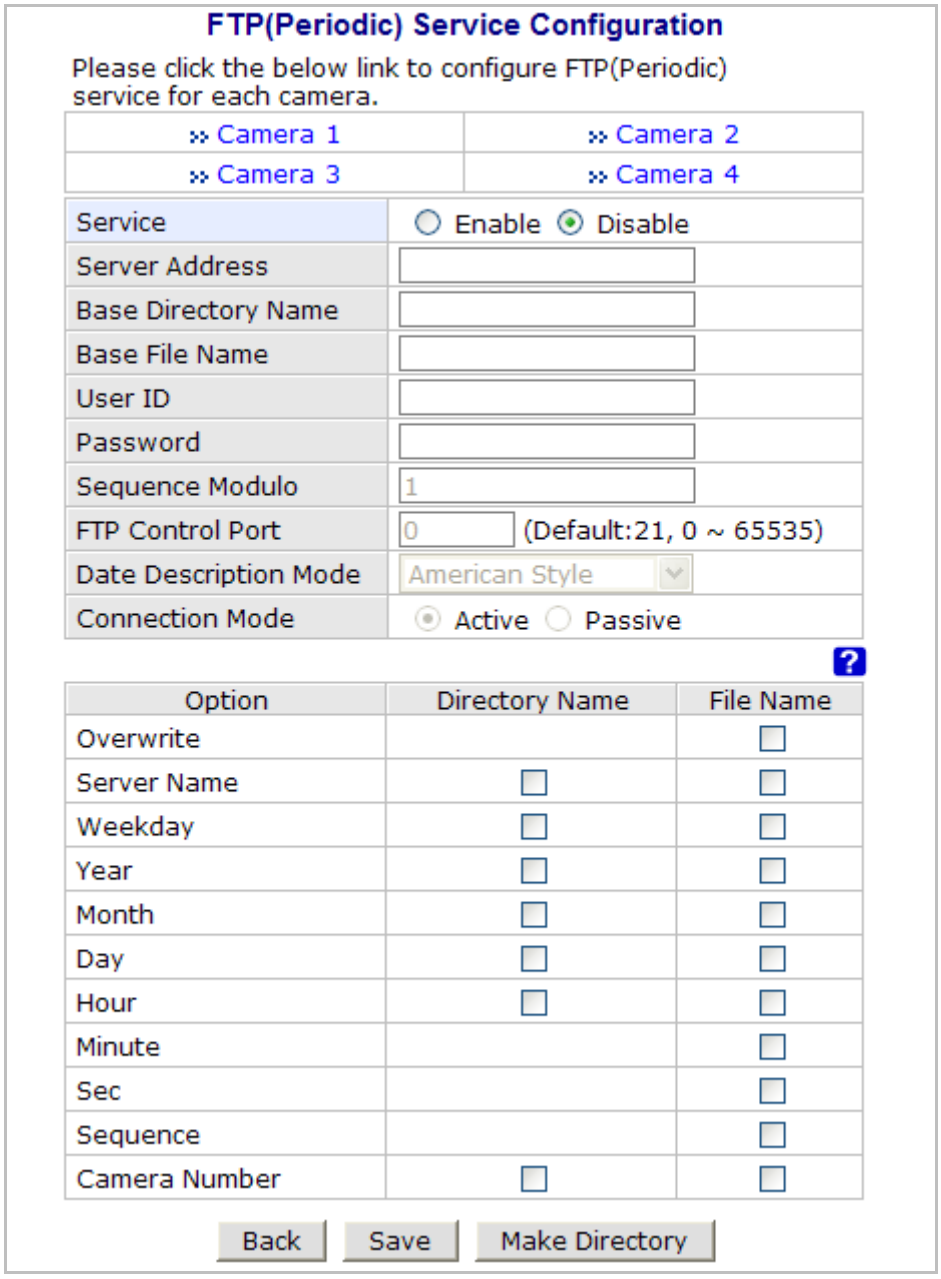


Item	Description
Condition 1 ~ Condition 3	Select a condition for FTP (Buffered) service to be activated. Up to 3 conditions can be set.
Pre-Alarm Buffer Size	The Buffer size assigned for Pre-Alarm.
Check Video buffer	Click this link to go to Advanced Services for video buffer setup.
Pre-Alarm Images	The number of image frames to store before Alarm.
Post-Alarm Images	The number of image frames to store after Alarm.
Pre-Alarm Speed	This field shows the speed of Pre-Alarm. Configuration can be done in Advances Services page.
Post-Alarm Speed	Select the speed of Post-Alarm. **Fastest** is the highest value.

After finishing setup, click **Save** button to apply. If you don't want to change, click **Back** button.

6.1.3. FTP (Periodic) Service Configuration



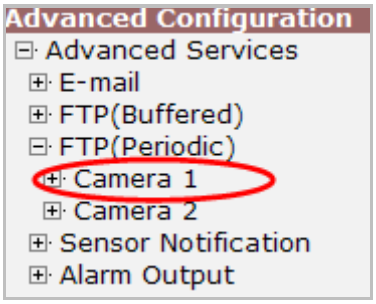


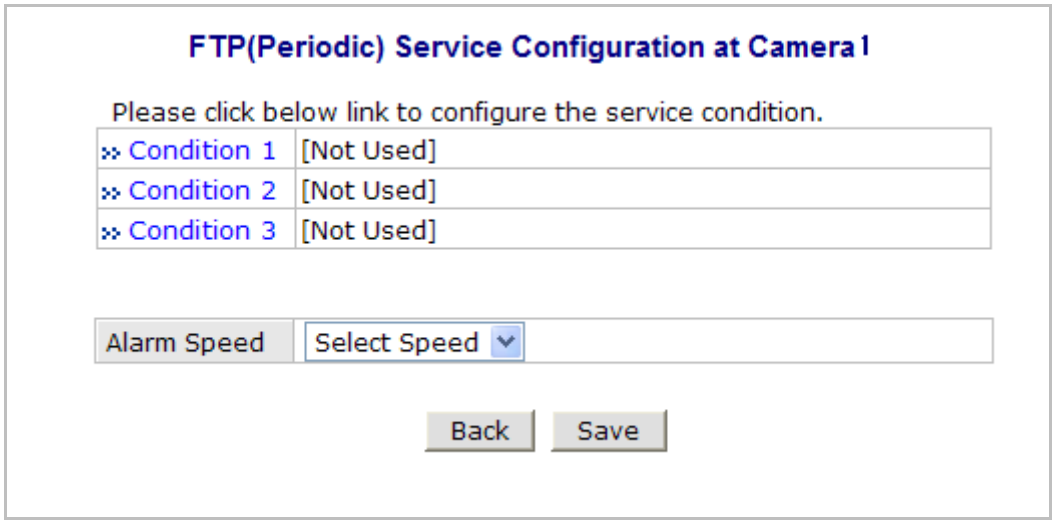
Item	Description
Camera 1 - Camera 4	Select which channel to set up for FTP (Periodic) service
Service	Select **Enable** to use the FTP (Periodic) service. Otherwise select **Disable**.
Server Address	FTP Server Address.
Base Directory Name	The directory in FTP server where the data will be uploaded. (You should make the directory in the FTP server before using the service.)
Base File Name	The base file name of the data to be uploaded in FTP server.
User ID	Enter a User ID to log in to FTP server.
Password	Enter the Password for the user ID to log in to FTP server
Sequence Modulo	Maximum number used in sequential file name
FTP Control Port	Port number for FTP server (Normally 21 is used)

Date Description Mode	Select Date Display Style (e.g. 20090228)
Connection Mode	Select connection mode for FTP server
Overwrite	If checked, new file overwrites the existing file with the same name.
Server Name	If **Directory Name** is checked, new directory is created with server name. If **File Name** is checked, new file is created with server name.
Weekday	If **Directory Name** is checked, new directory name is created with weekday. If **File Name** is checked, new file name is created with weekday.
Month	If **Directory Name** is checked, new directory name is created with month. If **File Name** is checked, new file name is created with month.
Day	If **Directory Name** is checked, new directory name is created with day. If **File Name** is checked, new file name is created with day.
Hour	If **Directory Name** is checked, new directory name is created with hour. If **File Name** is checked, new file name is created with hour.
Minute	If checked, new file name is created with minute.
Sec	If checked, new file name is created with second.
Sequence	If checked, new files are created starting from 0, with increment of 1.
Camera Number	If **Directory Name** is checked, new directory is created with camera number. If **File Name** is checked, new file is created with camera number.

To create a directory with the options shown above, click **Make Directory** button. After finishing the configuration, click **Save** button to apply the change and continue to the next page. Clicking **Back** button will cancel the changes and go back to the previous page. (This service is available only in M-JPEG mode.)

FTP (Periodic) Service Configuration for each channel

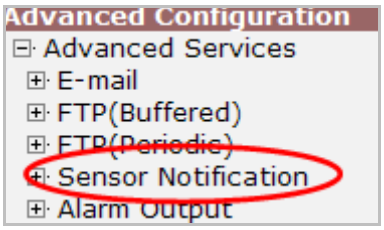


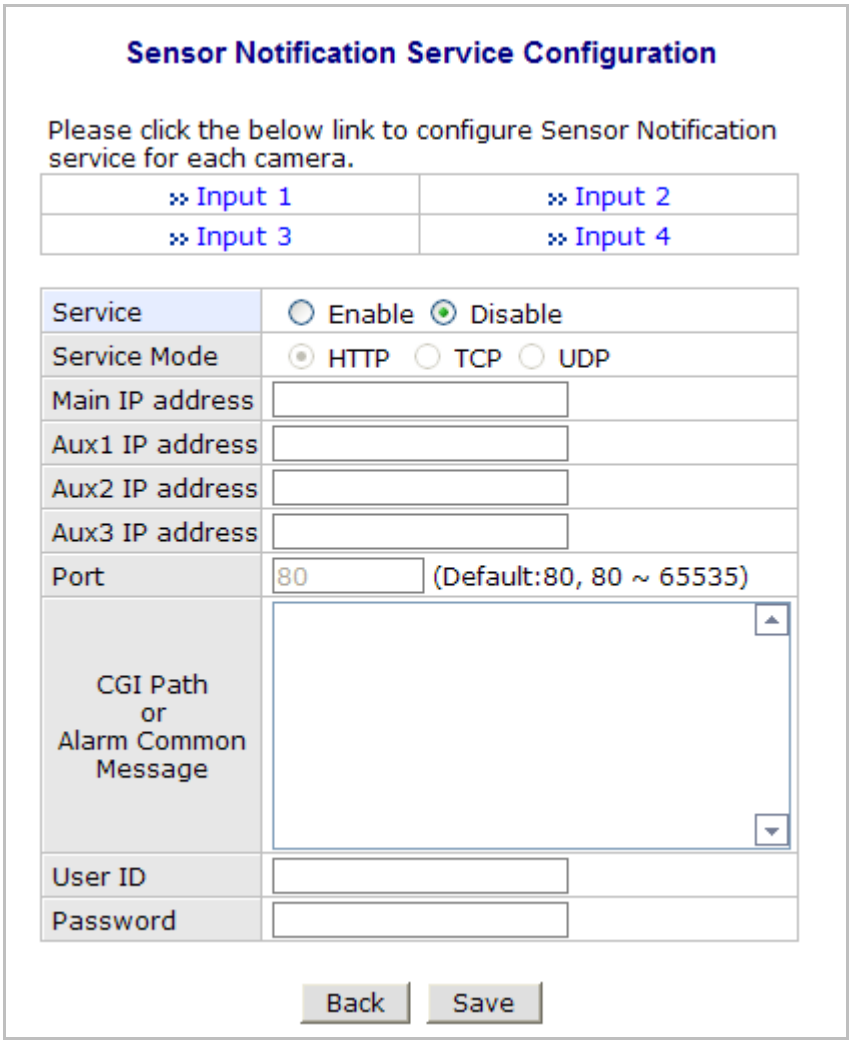


Item	Description
Condition 1 ~ Condition 3	Select a condition for FTP (Periodic) service to be activated. Up to 3 conditions can be set respectively.
Alarm Speed	Select the speed of images to send in FTP(Periodic) service

After finishing setup, click **Save** button to apply. If you don't want to change, click **Back** button.

6.1.4. Sensor Notification Service Configuration



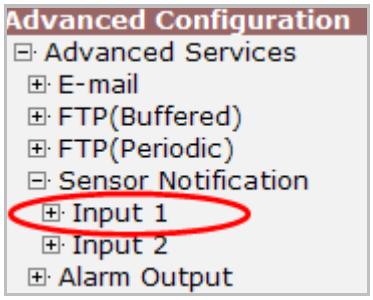


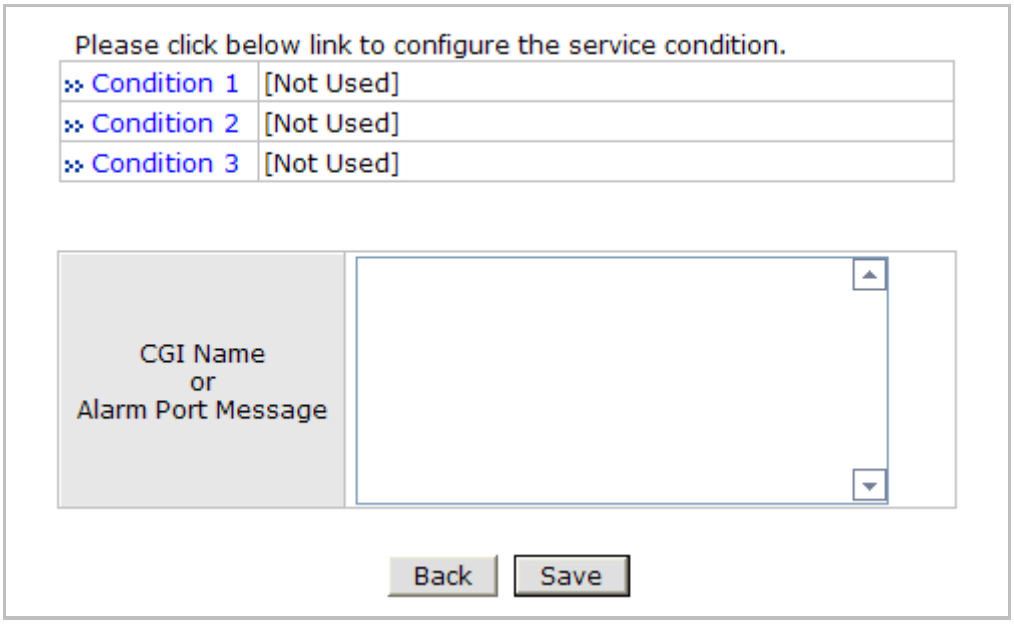
Item	Description
Input 1 - Input 4	Select which input to set up for Sensor Notification Service
Service	Select **Enable** to use Sensor Notification. Otherwise select **Disable**.
Service Mode	Select network mode for CGI. Select one among HTTP, TCP, or UDP.
Main IP address	Enter IP address to use in CGI or other functions
Aux1 ~ Aux 3 IP address	Enter 3 more addresses to use in CGI or other functions if needed.
Port	Enter port number for CGI or other functions. Default is 80.
CGI Path or Alarm Common Message	Enter CGI Path for CGI or other functions.
User ID	Enter User ID to log in.
Password	Enter Password for the User ID to log in.

After finishing the configuration, click **Save** button to apply the change and continue to the next page.

Clicking **Back** button will cancel the changes and go back to the previous page.

Sensor Notification Service Configuration for Each Input

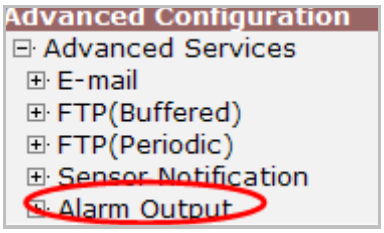


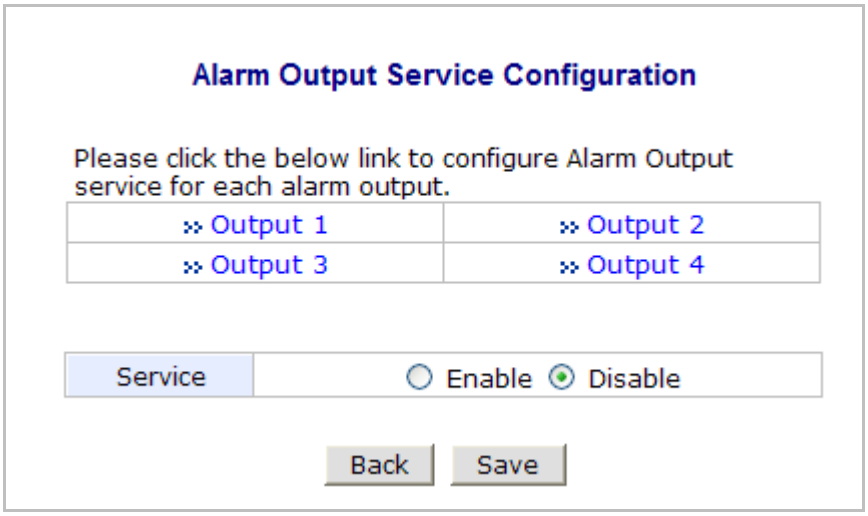


Item	Description
CGI Name or Alarm Port Message	Enter the contents of CGI when it is used.

Click **Save** button to save the change. Clicking **Back** button will cancel the change and go back to previous page.

6.1.5. Alarm Output Service Configuration

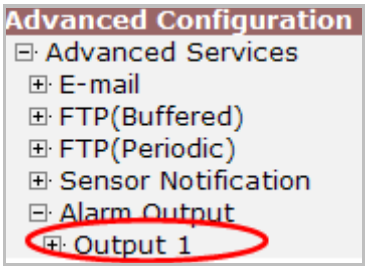


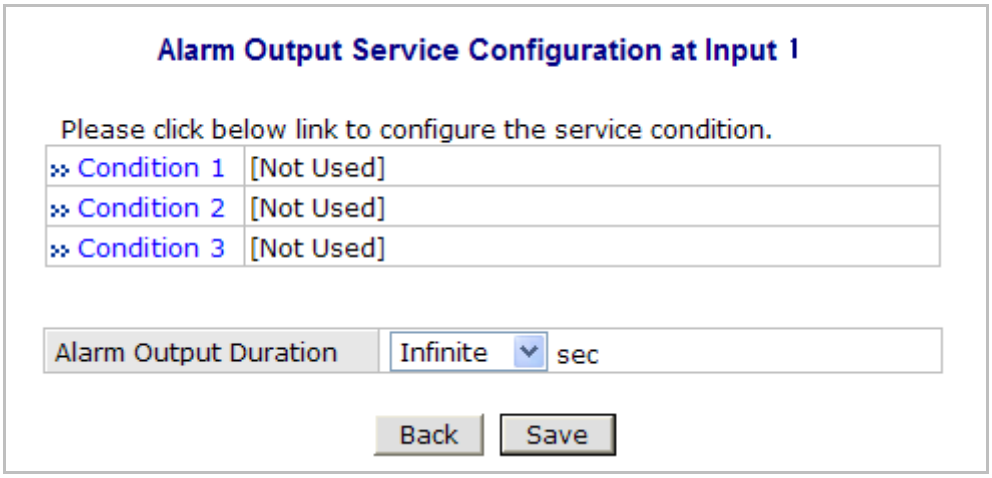


Category	Contents
Output 1 – Output 4	Select the output port to configure for **Alarm Output Service**.
Service	Select **Enable** to use the service, otherwise select **Disable**.

After finishing the configuration, click **Save** button to apply the change and continue to the next page. Clicking **Back** button will cancel the changes and go back to the previous page.

Alarm Output Service Configuration for each Output





Item	Description

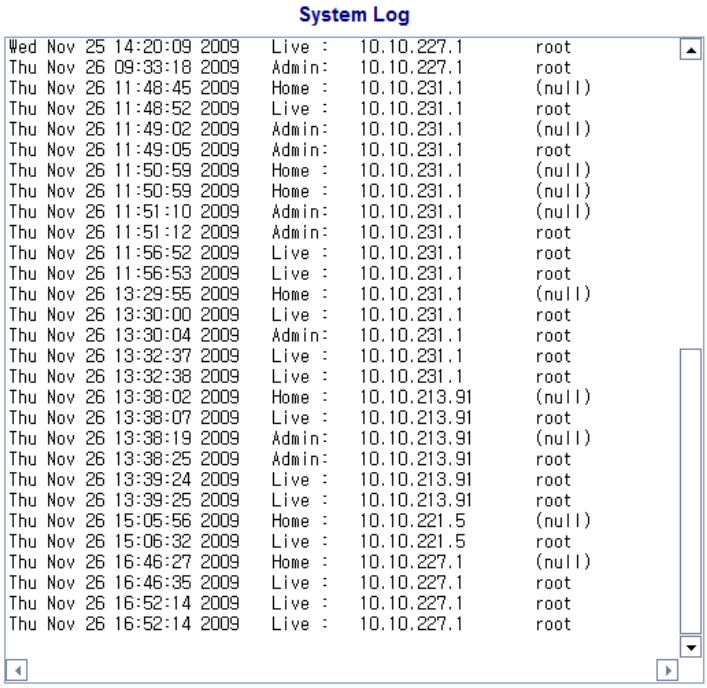
Condition 1 - Condition 3	Select a condition to configure Alarm Output Service. Up to 3 conditions can be set respectively.
Alarm Output Duration	Select how long the Alarm Output signal is maintained. Unit is in second.

7. Utilities

7.1. System Log

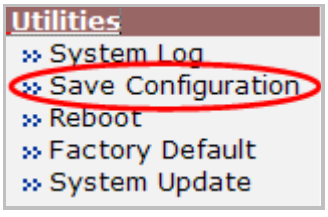
System log file provides you the information about when and who access the contents of DNC Server such as HTTP file or CGI programs. In each line, log data consists of date, time, category, source IP address, user ID logged in.

Day of Week	Month	Day	Hour:Minute:Second	Year	Category	IP Address	User ID



7.2. Save Configuration

After setting up DNC® Server, it is recommended to make sure by saving the changes in Flash Memory in the system.



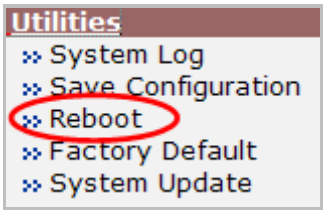
To save all the changes made during configuration, first click on **Save Configuration** on Utilities menu. The confirmation screen will be displayed as shown below. Click **Save Configuration** button to

finalize the action, otherwise click **Back** button to cancel it.

Save Configuration
Save Configuration is required to save all of new configuration in the system. Otherwise, no new configuration will be saved and effective.
If you do not want to save your new configuration, do not click 'Save Configuration' button.
Back
Save Configuration

7.3. Reboot

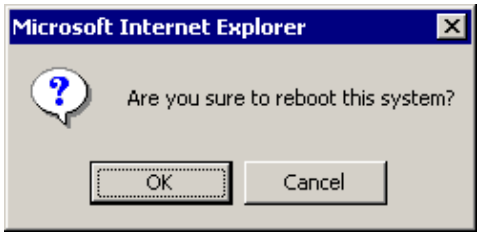
It is recommended to reboot the system after making changes and saving the configuration. To reboot, click **Reboot** on Utilities menu.



A confirmation screen will be displayed as shown Click **Save Configuration** button, otherwise click **Back** button to cancel it.

Reboot
System reboot is strongly recommended to apply all new configurations properly to the Network Video System.
Reboot!!

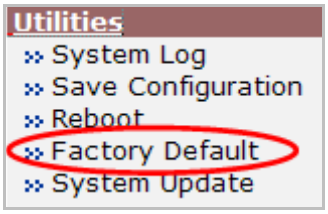
The second confirmation screen will be shown. This is only to confirm closing of web browser that DNC Server is on. Click **OK** button to close the web browser and reboot right away. If you click Cancel, the web browser is still open, but you will not be able to access the DNC Server until rebooting is done.



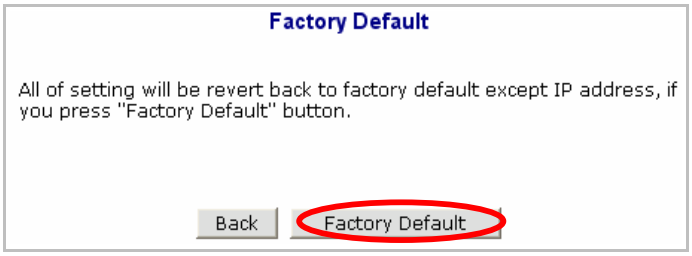
7.4. Factory Default

Whenever it is required to restore the configuration of Camera setup to factory default condition, you can do it here. Network configuration is not affected by this action.

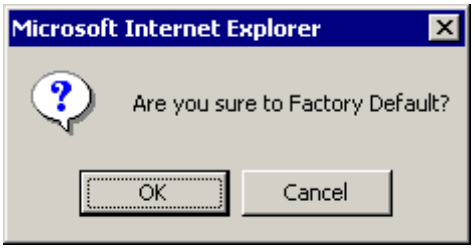
Click **Factory Default** on Utilities menu.



A confirmation screen will be displayed as shown Click **Factory Default** button, otherwise click **Back** button to cancel it.


Factory Default
All of setting will be revert back to factory default except IP address, if you press "Factory Default" button.
Back
Factory Default

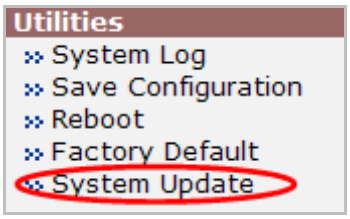
The second confirmation screen will appear. Click **OK** button to restore the factory default condition right away. If you click Cancel, web browser will go back to the previous screen without any change made.



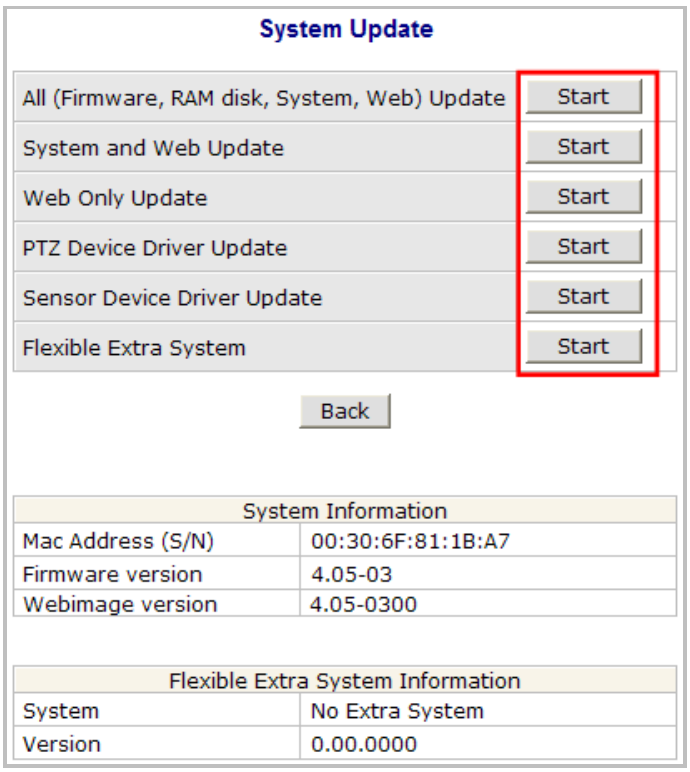
7.5. System Update

DNC Server's system program and data are stored in Flash memory, and it consists of Kernel Image, RAM Disk Image, System Image, and Web Image. In order to update the system of the server, you should have proper image files ready in your PC.

Click **System Update** on Utilities menu, then the following window will be displayed.



From the Start buttons displayed, choose the one that meets your need.

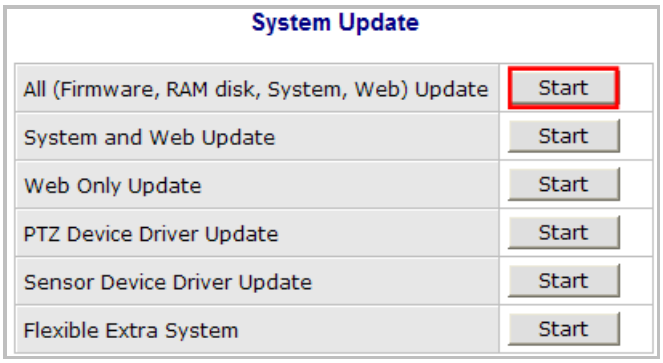


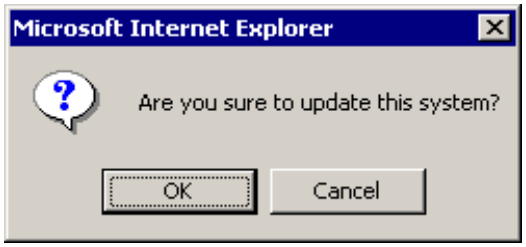
- **All (Firmware, RAM disk, System, Web) Update**: Update all four system images.
- **System and Web Update**: Only System and Web images are to be updated.
- **Web Only Update**: Only Web image is to be updated.

Up-to-date system files can be downloaded in Support page of Dongyang Unitech's homepages at www.cctvhome.net. After the update is done, it is required to reboot the server.

7.5.1. All (Kernel, RAM disk, System, Web) Update

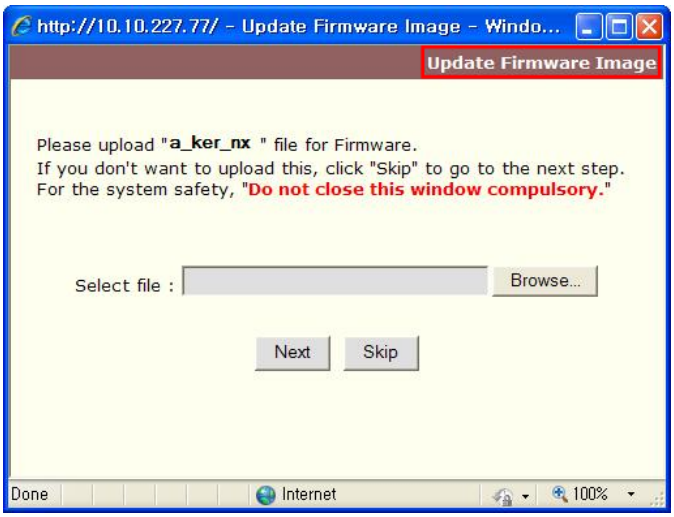
1. Click the **Start** button next to **All (Firmware, RAM disk, System, Web) Update** item on the menu, and a confirmation window will appear. Click **OK** button to proceed the update, otherwise click **Cancel**.



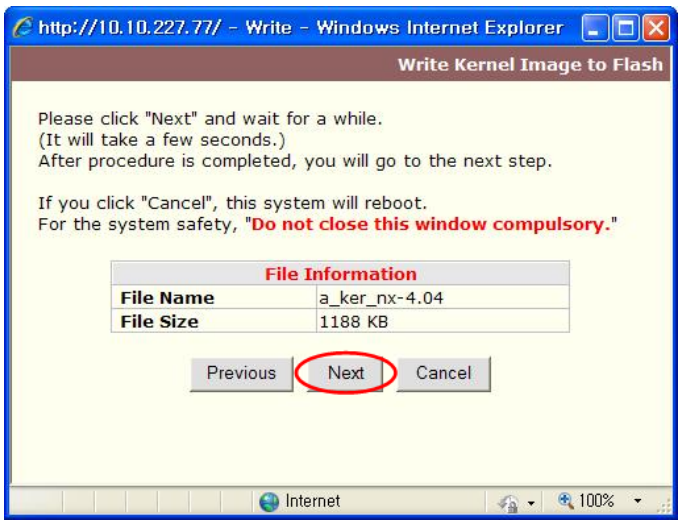


2. In the next window, enter the location of the Firmware Image file to update with. You can use the **Browse..** button to navigate the directories in your PC to find the file. Once the image file is selected, click **Next** button to proceed. You can cancel the update by clicking **Skip** button.

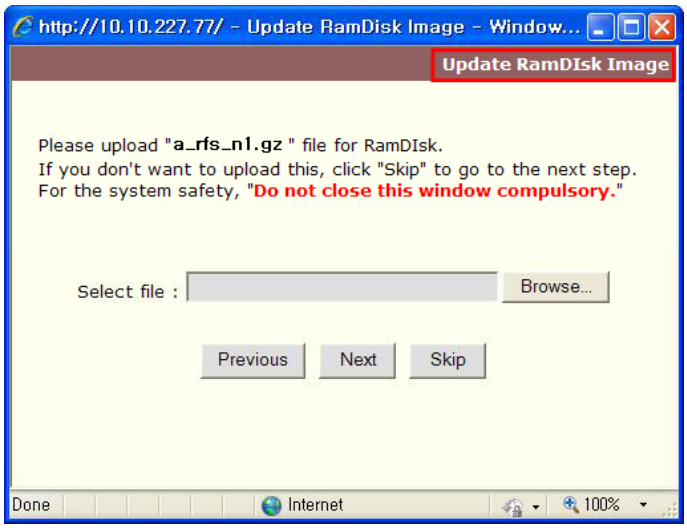
> ☞ *If your web browser's pop-up blocker is enabled, your PC many not display the confirmation window above. In that case, the pop-up blocking feature of the web browser should be disabled for system update to be completed.*


http://10.10.227.77/ - Update Firmware Image - Windo...
Update Firmware Image
Please upload "a_ker_nx " file for Firmware.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Next
Skip
Done
Internet
100%

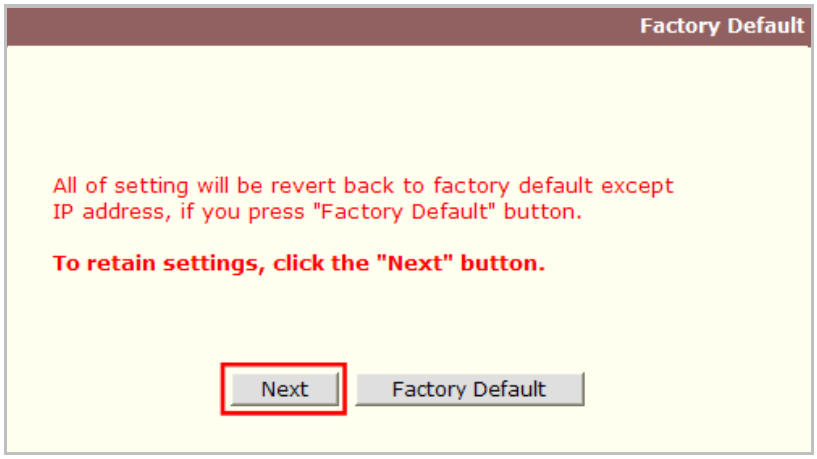
3. Now you can check the file name and the size in the new window. If you want to go back to the previous stage, click **Previous** button.
4. Click **Next** button to update the firmware right away and proceed to next stage. If you want to stop the update process, click **Cancel** button.


http://10.10.227.77/ - Write - Windows Internet Explorer
Write Kernel Image to Flash
Please click "Next" and wait for a while.
(It will take a few seconds.)
After procedure is completed, you will go to the next step.
If you click "Cancel", this system will reboot.
For the system safety, "Do not close this window compulsory."
File Information
File Name
a_ker_nx-4.04
File Size
1188 KB
Previous
Next
Cancel
Internet
100%

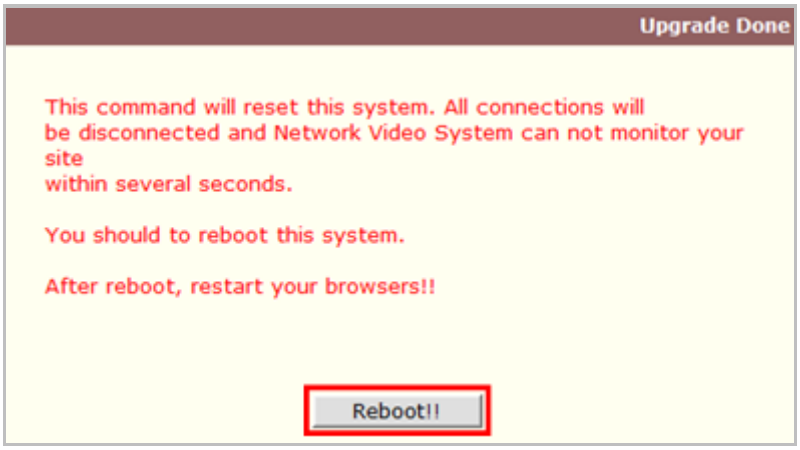
5. The next window is for locating the RAM Disk Update file.


http://10.10.227.77/ - Update RamDisk Image - Window...
Update RamDisk Image
Please upload "a_rfs_n1.gz " file for RamDisk.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Previous
Next
Skip
Done
Internet
100%

6. Go through the same steps as in Firmware Update, and do the same in update process for **System and Web Update** files.
7. After all the update processes pare finished, the window for **Factory Default** is displayed. If there was no problem in the entire update processes and you want to continue, click **Next** button. If you're not sure about the system update, you can restore the Factory Default condition by clicking **Factory Default** button.

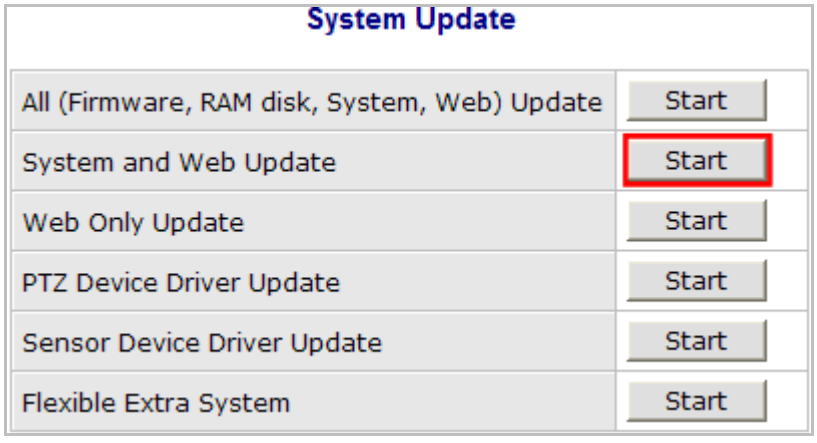

Factory Default
All of setting will be revert back to factory default except
IP address, if you press "Factory Default" button.
To retain settings, click the "Next" button.
Next
Factory Default

8. Now the final confirmation window will appear. Click **Reboot** button and the system will reboot.


Upgrade Done
This command will reset this system. All connections will
be disconnected and Network Video System can not monitor your
site
within several seconds.
You should to reboot this system.
After reboot, restart your browsers!!
Reboot!!

7.5.2. System and Web Update

1. Click the **Start** button next to **System and Web Update** item on the menu, and a confirmation window will appear. Click **OK** button to proceed the update, otherwise click **Cancel**.

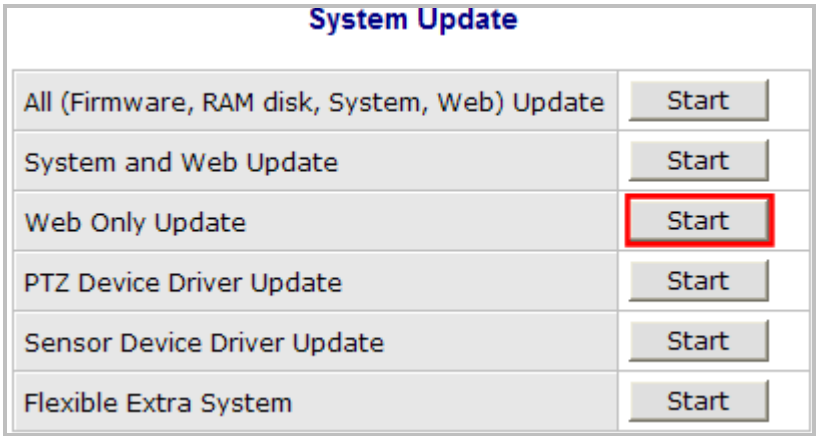


2. Go through the same steps as in **All Update** process (Kernel and RAM Disk updates are not made here)

3. After update is done, click **Reboot** to start the system over.

7.5.3. Web Only Update

Click the **Start** button next to **Web Only Update** item on the menu, and a confirmation window will appear. Click **OK** button to proceed the update, otherwise click **Cancel**. The rest of the process is the same as in **All Update** part. After update is done, click **Reboot** to start the system over.

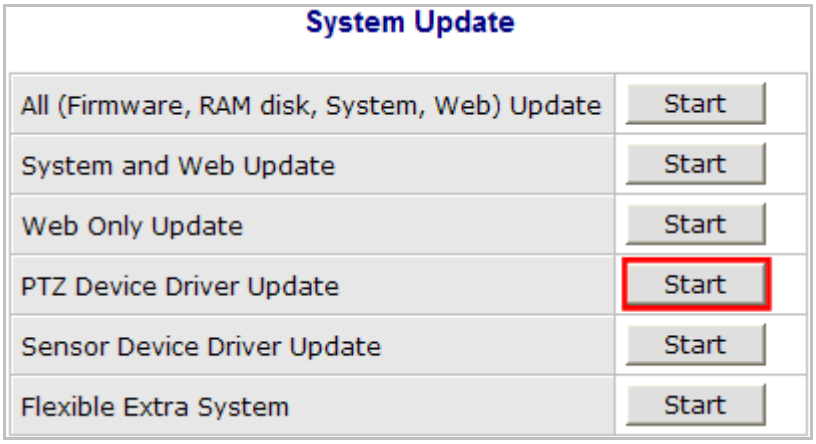


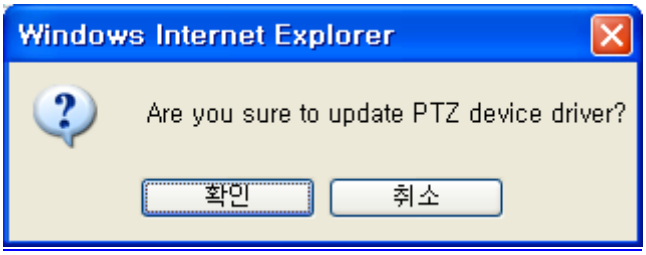
7.5.4. PTZ Device Driver Update

1. When adding a new PTZ model that doesn't have a proper driver found in DNC Server, it is required to install a driver for the PTZ function.
2. The name of the file used in update process is **PTZModel.bin**.

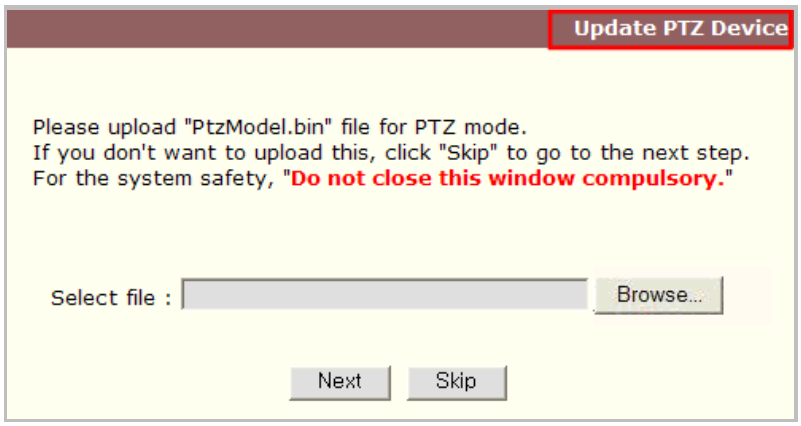
> *If a new PTZModel.bin file needs to be made, contact the camera vendor or Dongyang Unitech.*

3. Click the **Start** button next to **PTZ Device Driver Update** on the menu, and a confirmation window will appear. Click **OK** button to proceed the update, otherwise click **Cancel**. The rest of the update process is the same as in **All Update** part.



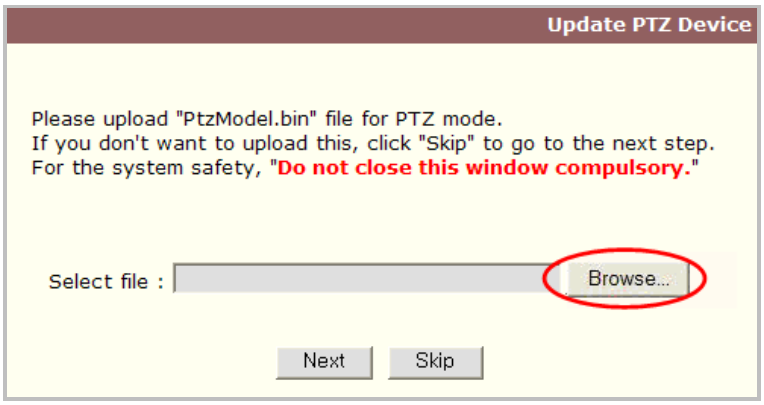


4. It displays the window that requests to enter the location of the PTZ Device Image file. The upper right corner of the window shows the progress of current update.

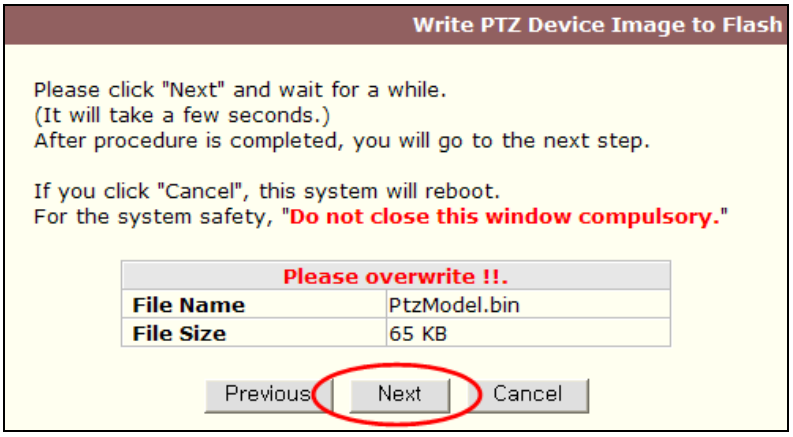

Update PTZ Device
Please upload "PtzModel.bin" file for PTZ mode.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Next
Skip

If your web browser's pop-up blocker is enabled, your PC many not display the confirmation window above. In that case, the pop-up blocking feature of the web browser should be disabled for system update to be completed.

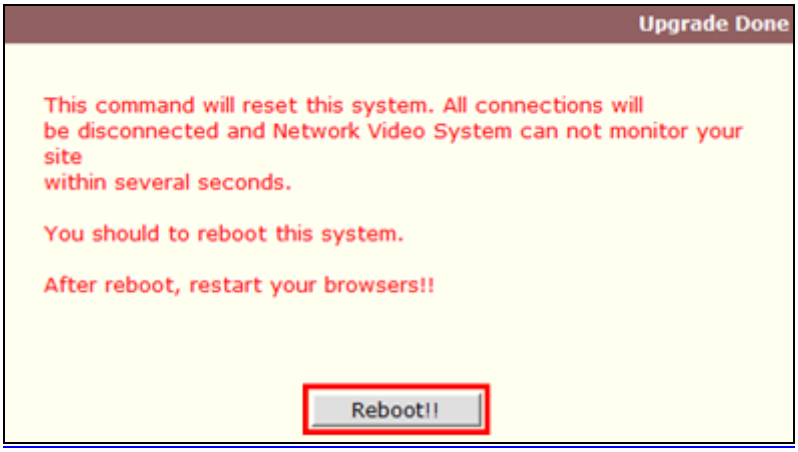
5. Using **Browse** button, locate the **PtzModel.bin** file from your PC.


Update PTZ Device
Please upload "PtzModel.bin" file for PTZ mode.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Next
Skip

6. Click Next **button** to continue with the file. If **Skip** button is clicked, it will go to the next step without updating PTZ Device Image.
7. If **Next** button was clicked in the previous step, you'll see the window displaying the file name and size.


Write PTZ Device Image to Flash
Please click "Next" and wait for a while.
(It will take a few seconds.)
After procedure is completed, you will go to the next step.
If you click "Cancel", this system will reboot.
For the system safety, "Do not close this window compulsory."
Please overwrite !!.
File Name
PtzModel.bin
File Size
65 KB
Previous
Next
Cancel

8. Now the update process is finished and the window for rebooting will be displayed. Click **Reboot** button to start the server over.

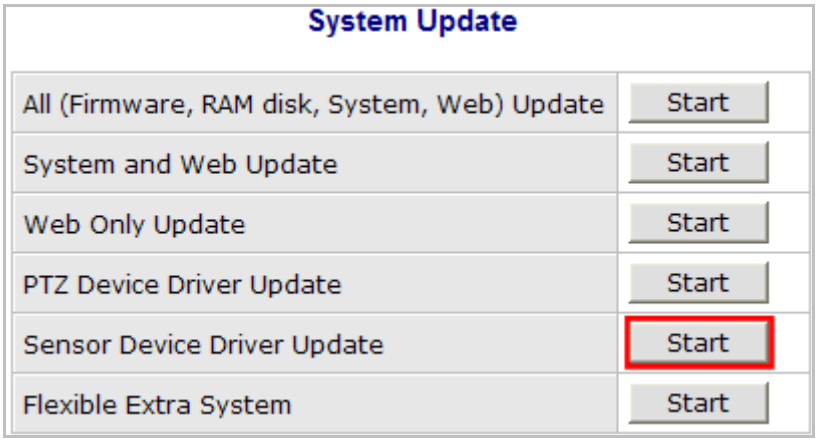

Upgrade Done
This command will reset this system. All connections will be disconnected and Network Video System can not monitor your site within several seconds.
You should to reboot this system.
After reboot, restart your browsers!!
Reboot!!

7.5.5. Sensor Device Driver Update

1. When adding a new Sensor device that doesn't have a proper driver found in DNC Server, it is required to install a driver for it. The name of the file used in update process is **SensorModel.bin**.

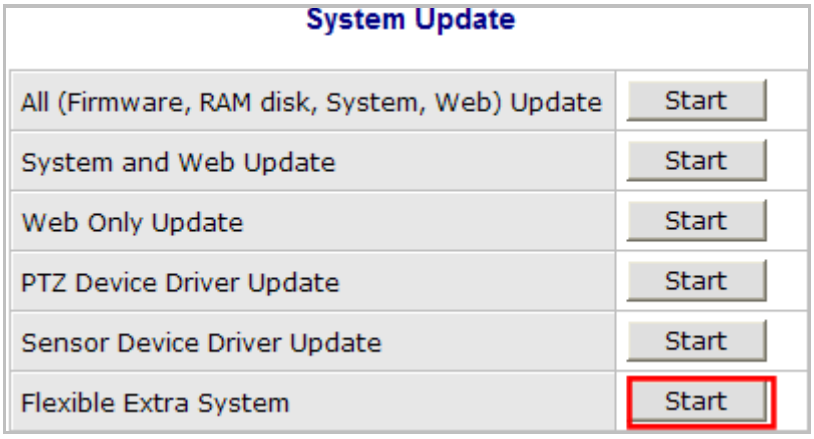
> ☞ *If a new SensorModel.bin file needs to be made, contact the camera vendor or Dongyang Unitech.*

2. Click the **Start** button next to **Sensor Device Driver Update** on the menu, and a confirmation window will be shown. Click **OK** button to proceed the update, otherwise click **Cancel**. The rest of the update process is the same as in **PTZ Device Driver Update** part.

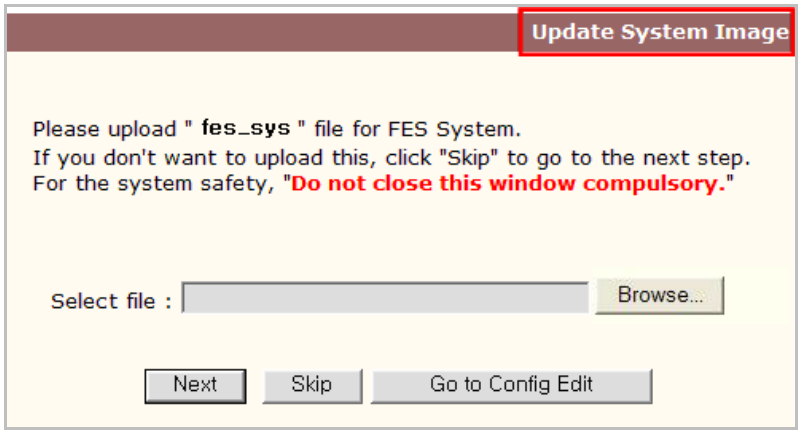


7.5.6. Flexible Extra system

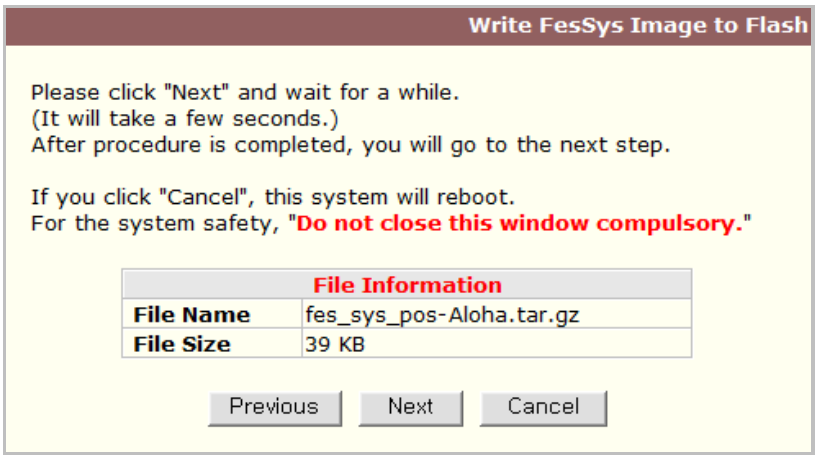
1. Flexible Extra system is an integrated system combining DNC® Server's video with external devices. Examples of the external devices can be entry control equipment, POS terminal, intelligent video analyzer, GPS terminal, dust density monitor, license plate recognition system, and so on.
2. The files required for updates can be different in each case, but usually consists of a system file and a configure file.
3. Click the **Start** button next to **Flexible Extra System** on the menu, and a confirmation window will appear. Click **OK** button to proceed the update, otherwise click **Cancel**.



4. In the next window, enter the location of the System Image file to update with. You can use the **Browse..** button to navigate the directories in your PC to find the file.
5. Once a System image file is selected, click **Next** button to proceed. If you click **Skip**, you will skip this step, and move to the next step. If you click **Go to Config Edit** button, it will go to the stage where you can edit the configuration file.


Update System Image
Please upload " fes_sys " file for FES System.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Next
Skip
Go to Config Edit

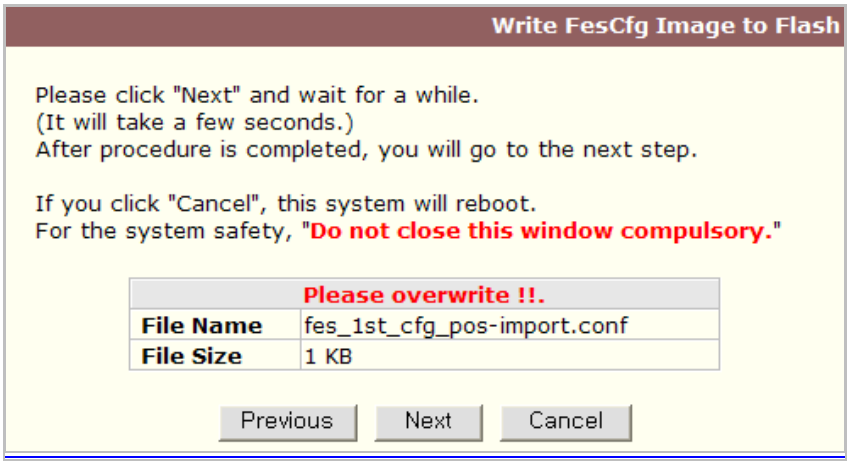
6. Now you can check the file name and the size in the new window. If you want to go back to the previous stage, click **Previous** button. Click **Next** button to update the System Image right away and proceed to next stage. If you want to stop the update process, click **Cancel** button.


Write FesSys Image to Flash
Please click "Next" and wait for a while.
(It will take a few seconds.)
After procedure is completed, you will go to the next step.
If you click "Cancel", this system will reboot.
For the system safety, "Do not close this window compulsory."
File Information
File Name
fes_sys_pos-Aloha.tar.gz
File Size
39 KB
Previous
Next
Cancel

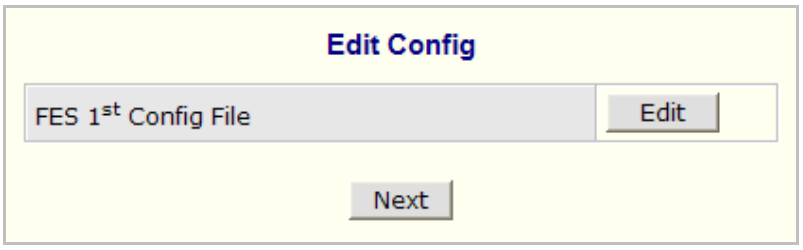
7. Now the window to locate the Config Image file is displayed. Selecting a file after clicking **Browse** button. Click **Next** button to move to the next stage. If **Previous** button is clicked, it will go back to the file selection step. If **Skip** button is clicked, it will go to the next step without updating the file.

Update Config Image
Please upload " fes_1st_cfg " file for 1st FES Config.
If you don't want to upload this, click "Skip" to go to the next step.
For the system safety, "Do not close this window compulsory."
Select file :
Browse...
Previous
Next
Skip

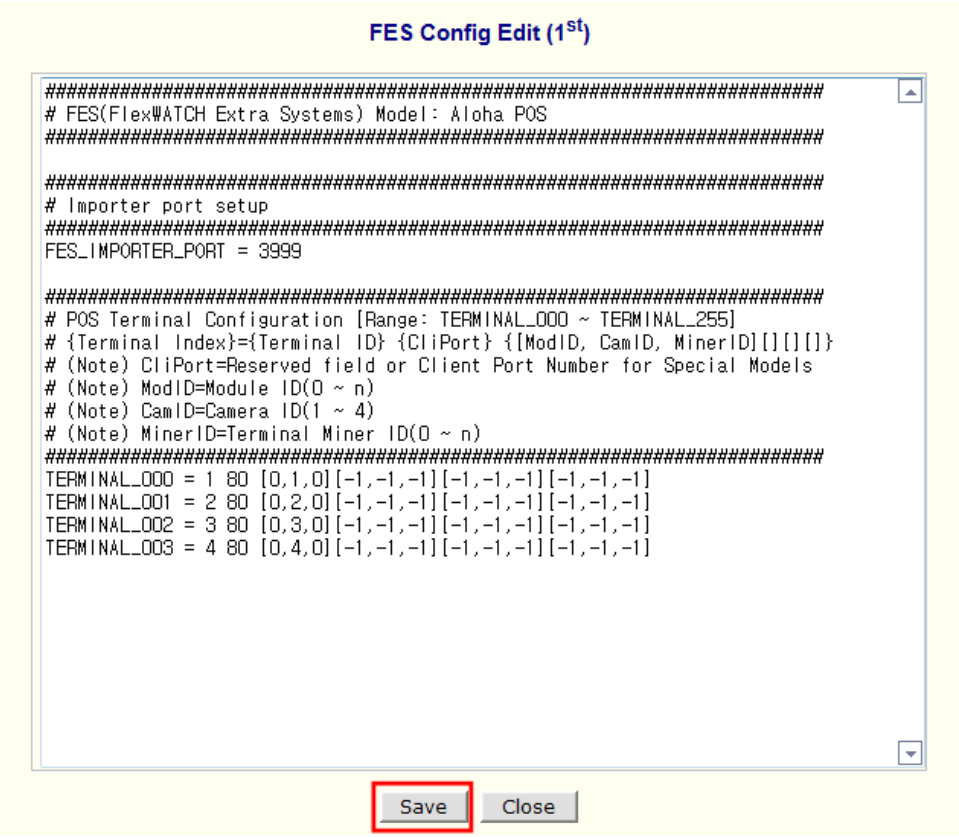
8. Check the file name and the size of Config Image file. If **Previous** button is clicked, it'll go back to start of file locating stage. If **Next** button is clicked, the update process will be done and go back to the next stage. If you want to stop the update, click **Cancel** button.


Write FesCfg Image to Flash
Please click "Next" and wait for a while.
(It will take a few seconds.)
After procedure is completed, you will go to the next step.
If you click "Cancel", this system will reboot.
For the system safety, "Do not close this window compulsory."
Please overwrite !!.
File Name
fes_1st_cfg_pos-import.conf
File Size
1 KB
Previous
Next
Cancel

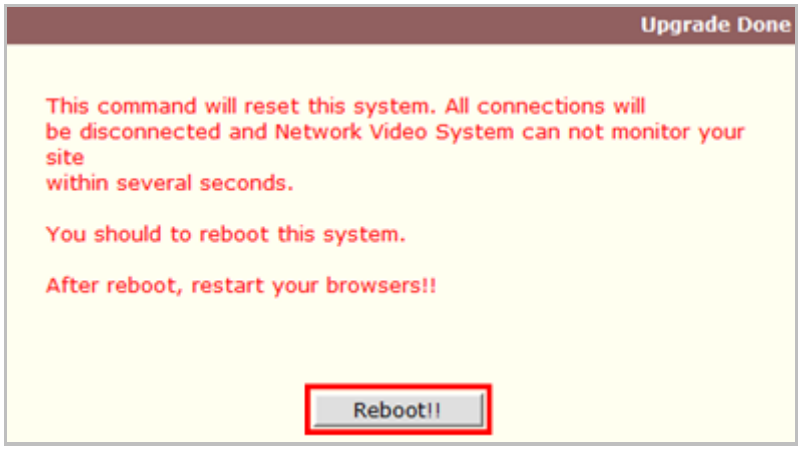
9. After finishing all the update process, it displays a window for editing the configuration file.



10. If you click **Edit** button, now you can edit the Config file after clicking Edit button which is found on the right of the file name.


FES Config Edit (1st)
##
FES(FlexWATCH Extra Systems) Model: Aloha POS
##
##
Importer port setup
##
FES_IMPORTER_PORT = 3999
##
POS Terminal Configuration [Range: TERMINAL_000 ~ TERMINAL_255]
{Terminal Index}={Terminal ID} {CliPort} {[ModID, CamID, MinerID][][][]}
(Note) CliPort=Reserved field or Client Port Number for Special Models
(Note) ModID=Module ID(0 ~ n)
(Note) CamID=Camera ID(1 ~ 4)
(Note) MinerID=Terminal Miner ID(0 ~ n)
##
TERMINAL_000 = 1 80 [0,1,0][-1,-1,-1][-1,-1,-1][-1,-1,-1]
TERMINAL_001 = 2 80 [0,2,0][-1,-1,-1][-1,-1,-1][-1,-1,-1]
TERMINAL_002 = 3 80 [0,3,0][-1,-1,-1][-1,-1,-1][-1,-1,-1]
TERMINAL_003 = 4 80 [0,4,0][-1,-1,-1][-1,-1,-1][-1,-1,-1]
Save
Close

11. Click **Save** button to save the Config file. Click **Close** button to close the editing window.
12. If you click **Next** button, a window for rebooting is displayed. Click **Reboot** button, and the system will start over.


Upgrade Done
This command will reset this system. All connections will be disconnected and Network Video System can not monitor your site within several seconds.
You should to reboot this system.
After reboot, restart your browsers!!
Reboot!!